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EXAMINING COSMETIC VIRTUAL ITEM PURCHASE IN WORLD OF WARCRAFT

A theory of consumption values perspective

Master's Thesis
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Abstract

The online gaming market has grown drastically in the recent years. However, instead of the actual game sales, most of the profits now come from selling virtual items in-game for real money. To support this, many games are moving away from a subscription-based model and into a free-to-play model. World of Warcraft is one of the few major MMOs still utilizing a subscription-based model, and thus provides an interesting context in which cosmetic virtual items are bought for real money.

This study took the theory of consumption values literature as a main theoretical framework from which to approach this concept. Also, theory on virtual item purchase, and cosmetic items specifically, was used to build a framework for this study. The theoretical framework was based on a modification of the original theory of consumption values and combining it with previously unused parts from the original model. Therefore, this paper has a basis in previous research on the field, while also contributing to the research of (cosmetic) online game item purchase intention by introducing a new framework with which to inspect this phenomenon. As of late-2018, this study is the first to inspect cosmetic game item purchase intention in a pay-to-play online game.

An online questionnaire was used to gather responses from World of Warcraft players from official and unofficial forums, closed Facebook groups and specific sub-Reddits. The final sample size for the study was 202. Exploratory and confirmatory factor analysis was run on the results to confirm framework validity, and structural equation modeling was used to form a new framework ($p < ,000$) with which to examine cosmetic online game purchasing behaviour.

The primary findings of this paper indicate that an increase in visual authority (i.e. status) will increase the enjoyment players derive from using cosmetic game items, which in turn leads to an increased intention to purchase said items. Furthermore, a higher perceived value for money leads to an increased intention to purchase said items. Other factors, such as perceived network size, were found to not influence intention to purchase. In other words, cosmetic virtual item purchasing intention is influenced by social, emotional and monetary values.

This paper has contributed to present scientific knowledge on both the theory of consumption values and cosmetic game item purchase by examining them in the context of World of Warcraft, and subsequently developing a new structural framework through which said purchasing can be examined more accurately. The findings are also in line with previous research done in World of Warcraft in similar contexts.

Managerial implications are also discussed, and new ways of offering cosmetic virtual items are examined, such as offering them as limited-time accessories for World of Warcraft's e-sports tournaments Additionally, limitations of this study and avenues for further research are discussed.

Keywords World of Warcraft, online games, cosmetic items, symbolic items, theory of consumption values, virtual goods, consumer behaviour, virtual consumer behaviour

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Tiivistelmä

Nettimoninpelit ovat kasvattaneet suosiotaan viime vuosien aikana merkittävästi. Tällä hetkellä suurin osa myynnistä tulee kuitenkin virtuaalisten esineiden kaupasta. Monet pelit ovatkin siirtyneet pois vanhasta kausimaksumallista uuteen ilmaispelimalliin. World of Warcraft on yksi harvoista suurista nettimoninpeleistä, joka vieläkin käyttää kausimaksumallia, ja siten tarjoaa mielenkiintoisen kontekstin, jossa tutkia kosmeettisten peliesineiden ostoa oikealla rahalla.

Tämä tutkimus käytti kulutusarvojen teoriaa pääasiallisena tieteellisenä viitekehyksenä ilmiön tarkastelua varten. Myös kosmeettisten ja virtuaalisten esineiden ostamiseen liittyvää tutkimusta käytettiin tämän työn tukemiseksi. Viitekehys perustui muunneltuun version alkuperäisestä kulutusarvojen teoriasta, johon yhdisteltiin aiemmin tässä kontekstissa käyttämättömiä osia. Täten, tällä työllä on perusta aiemmin tehdyssä tieteellisessä tutkimuksessa, mutta samalla se tuo uutta näkökulmaa ja löydöksiä kuluttajien (kosmeettisten) nettipeliesineiden ostoaikeisiin esittelemällä uuden viitekehyksen, jonka kautta ilmiötä voi tutkia. Loppuvuoteen 2018 mennessä tämä tutkimus on ensimmäinen, joka tutkii kosmeettisten esineiden ostoa maksullisissa nettimoninpeleissä.

Nettikyselyä käytettiin vastausten keräämiseen World of Warcraftin pelaajilta virallisten ja epävirallisten nettifoorumien, suljettujen Facebook-ryhmien ja ala-Reddittien kautta. Tutkimuksen lopullinen otanta oli 202. Faktorianalyysiä käytettiin korrelaatiorakenteen tutkimiseen sekä varmentamiseen, ja uusi viitekehys kehitettiin rakenneyhtälömallinnuksella ($p < ,000$), jonka avulla kuluttajien kosmeettisten esineiden ostoaietta voidaan tutkia.

Tutkimuksen päälöydösten mukaan nousu visuaalisessa auktoriteetissa (i.e. statuksessa) lisää niistä käytöstä saatavaa mielihyvää, joka johtaa suurempaan ostoaikeeseen. Myös kuluttajien itse mieltämä kosmeettisista esineistä saatava vastine rahoille lisää ostoaietta. Muut osatekijät, kuten sosiaalisen verkoston suuruus pelissä, eivät vaikuta ostoaikeeseen. Toisin sanoen, kosmeettisten virtuaaliesineiden ostoaikeeseen vaikuttaa sosiaaliset, tunteelliset and rahalliset arvot.

Tämä tutkimus kontribuoi nykyisen tieteelliseen tutkimukseen sekä kulutusarvojen teorian ja kosmeettisten esineiden ostomotivaation osalta tutkimalla niitä World of Warcraftin kontekstissa, ja sittemmin kehittämällä uuden teoreettisen viitekehyksen, jonka kautta ostoja voidaan tutkia tarkemmin. Nämä löydökset ovat myös linjassa aiemman tutkimuksen kanssa, jossa World of Warcraftia on käytetty kontekstina.

Tutkimuksen merkitystä johdon päätöksenteolle käydään läpi, ja uusia tapoja tarjota kosmeettisia esineitä tutkitaan, kuten esimerkiksi niiden tarjoamista rajallisina oheistuotteina World of Warcraftin e-sportsturnauksissa. Tämän lisäksi tutkimuksen rajoitteista, ja uusien tutkimussuuntien alustamisesta keskustellaan.

Avainsanat World of Warcraft, nettipeli, moninpeli, kuluttajan käyttäytyminen, virtuaalinen kuluttajan käyttäytyminen, virtuaaliset esineet, kosmeettiset esineet, symboliset esineet

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1. INTRODUCTION

1.1 Background on online gaming

On overview of the context is presented in the first section of this paper. This study examines cosmetic item purchases in online games, and both of these concepts along with virtual consumer behaviour in general are introduced. After establishing a suitable background for the research, the section concludes with the actual research question being provided for the literature review.

The online game market has grown exponentially in the past couple of years, even though most of these games have relatively short histories. The worldwide revenue for online games (excluding free-to-play games with no in-game purchasing possibilities) is expected to amount to roughly 13,5 billion USD in 2018, and an upwards trend is expected by Statista (2017). The same can be said for social networking sites (e.g. Facebook, Twitter): their user base and revenues have grown and are still growing at an amazing rate, with Statista (2018) predicting their user base to grow from the current 2,46 billion to 3,02 billion before 2021. Social media penetration is also on the rise: as of the end of the year 2016, 81% of the United States population had at least one active account on a social media site (Statista, 2018).

This emergence into the online environment has created numerous new market opportunities for online games and social networking sites (SNS). Overall, their revenues have increased quite considerably in the recent years, but the source of their revenues has changed also. Instead of the actual game sales, most of the profits now come from selling virtual items in-game for real money (Hamari and Lehdonvirta, 2010). Worldwide, mobile games have surpassed PC and console games in terms of revenue, and they are expected to amount to 48 billion USD in 2021 (DFC Intelligence, 2017). Some online games have been operating on a monthly subscription-based revenue model, but recently, free-to-play games have been rising in popularity, and older subscription-based games are converting to the free-to-play, or “freemium” model, in search for a more profitable operating method (Alha *et al*., 2014).

One other popular form of games that rose during the recent years to challenge the more traditional, subscription based online games was casual web browser games. The success of social media sites such as Facebook has been paramount in providing these casual games with a platform from which to attract huge amounts of players. Games like Farmville and Candy Crush Saga have been immensely popular, and profitable, as in-game items can be easily purchased with for example Facebook payments. According to LeJacq (2012), 27 million Facebook users used payments to buy virtual goods, resulting in 810 million U.S. dollars of payments revenue, of which only 5 million came from sources outside of games. Recently though, these games have been declining in popularity and revenue, as more and more people found casual games more readily available for smartphones, tablets and other mobile platforms, thus moving away from Facebook payments, and web browser-based games in general (Asatryan, 2017).

Furthermore, the rising popularity of online games has led to the development of so-called virtual economies over time (Castronova, 2003, 2006), which have a striking resemblance to real life economies. For example Second Life, a popular virtual world, has its own currency: the Linden Dollar, which fluctuates from time to time not unlike a real currency. It can also be exchanged with U.S. dollars (Reiss, 2005). It has also been postulated that macroeconomic behaviour in online games or virtual worlds is similar to that in the real world (Castronova *et al.*, 2009). These developments have led to discussion about virtual item purchase (Lehdonvirta, 2009; Lehdonvirta, Wilska and Johnson, 2009; Park and Lee, 2011), virtual consumer behaviour (Guo and Barnes, 2009, 2011; Mäntymäki and Salo, 2011), and more precisely cosmetic goods purchase (Turel, Serenko and Bontis, 2010; Shang, Chen and Huang, 2012; Gattig, Marder and Kietzmann, 2017) Leveraging this fact in online games' business models in the form of microtransactions has also been discussed, especially in the context of free-to-play games (Alha *et al.*, 2014). These topics will be examined further in their own respective sections in this literature review.

Different models and theories have also been used to inspect these phenomena, namely the Technology Acceptance Model (TAM) (Davis, 1989), the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh *et al.*, 2003), and the theory of consumption values (TCV) (Sheth, Newman and Gross, 1991) have been proposed as satisfactory models regarding online user behaviour. TAM can be and has been modified to examine online consumer behaviour (Koufaris, 2002; Hsu and Lu, 2007; Venkatesh, Thong and Xu,

2012; Wang *et al.*, 2012) and UTAUT has been used previously to examine online gamer behaviour specifically (Mäntymäki and Salo, 2013). These theories have also been used in conjunction to explain consumer behaviour more thoroughly, especially TAM and UTAUT in a more longitudal context (Guo and Barnes, 2007). Theory of consumption values has also been paramount in defining factors affecting customer value perception and purchasing decision (Sheth, Newman and Gross, 1991), and later it has been modified to be a suitable framework for examining consumer behaviour in the online environment, and especially online games (for example Park and Lee, 2011; Mäntymäki and Salo, 2015). It is notable that the theory of consumption values has been used in both quantitative (Park and Lee, 2011) and qualitative (Mäntymäki and Salo, 2015) research contexts, showing its versatility as a framework for research.

This study takes the theory of consumption values literature as a main theoretical framework from which to approach these concepts. Also, theory on virtual item purchase, and cosmetic items specifically, will be used to build a framework for this study: the theoretical framework is based on Park and Lee's (2011) modification of the original theory of consumption values, and combining it with previously unused parts from said original model by Sheth, Newman and Gross (1991). Therefore, this paper has a basis in previous research on the field, while also contributing to the research of (cosmetic) online game item purchase intention by introducing a new framework with which to inspect this phenomenon. As of late-2018, and to the author's knowledge, this study is the first to inspect cosmetic game item purchase intention in a pay-to-play online game.

The objective of this paper is to answer the question: "*What are the key concepts influencing cosmetic virtual item purchase in World of Warcraft?"*

In short, answering this question will prove valuable, as online games are only growing as an industry, necessitating more academic attention as well. Furthermore, as will be discussed in later sections, World of Warcraft is a suitable pay-to-play online game in which to conduct academic research. Finally, the focus of academic research has been on free-to-play gaming during recent times. It is therefore also important to examine a pay-to-play alternative to help in creating a more holistic understanding of the gaming industry as a whole from a scientific perspective.

1.2 List of terms and abbreviations

As in with any other specific field of study, this paper will use a handful of terms and abbreviations that may not be familiar to everyone. In order to make reading this study easier; a list of the most common terms and their abbreviations is provided along with a short explanation of each term.

Pay-to-play / Free-to-play (P2P / F2P): Two of the most common forms of online game operating models. Simply put, these terms indicate whether a player has to pay in order to access the necessary features of the online game in question or not. It is worth noting, however, that some F2P games may not require payment per se, but progress in-game is made considerably slower or more difficult without utilizing payments.

Freemium game: A subset of F2P games. In a freemium game, the basic game content is provided for free, but advanced content or features must be paid for, either with in-game or real money.

Massively-Multiplayer Online game (MMO): An online game that can be played by a huge number of players at the same time. An example of this is World of Warcraft, which has millions of accounts created (Statista, 2016).

Virtual goods: A virtual asset that can be mass-produced, bought and sold like common consumer commodities (Lehdonvirta, 2009). A more detailed explanation of virtual goods is presented in section 3.1.

Cosmetic / functional virtual goods: Alluding online game items especially, the division between cosmetic and functional goods explains what the primary use case for a virtual item is. Functional items can be used to increase performance or to reach a certain goal in-game, while cosmetic goods are purely accessories. A more detailed explanation of virtual goods is presented in section 3.1.

2. ONLINE GAMES

The purpose of this section is to examine the concept of online games from a theoretical perspective. Different topics such as motivation for playing online games, online game categories, online game business models and the role of e-sports in gaming are explored to form a succinct understanding of online games.

It is important to know how different online game environments function in order to better understand their users' purchasing behaviour, as there are many different online game platforms (e.g. MMOs, first-person shooters, casual web browser games), each with a unique user base. Previous studies examining in-game customer behaviour have explored the virtual worlds mainly such as Habbo Hotel (Mäntymäki and Salo, 2011, 2013), Second Life (Martin, 2008; Guo and Barnes, 2011) and World of Warcraft (Park and Chung, 2011; Billieux *et al.*, 2013; Moon *et al.*, 2013), mainly because these are some of the biggest and most well-known online games up to date. These are also good examples of both structured and unstructured online video games, the differences of which will be covered in the next section.

Online games are played for a plethora of reasons, but the most prevalent ones are satisfying a myriad of different needs or longings, and to escape the problems occurring in real life (Parmentier and Rolland, 2009; Moon *et al.*, 2013). However, academic studies have been more focused on examining other effects online games can possibly have on individuals, such as addiction (Charlton and Danforth, 2007; Kim *et al.*, 2008; Kuss and Griffiths, 2012), cyberbullying (Slonje and Smith, 2008; Smith *et al.*, 2008)**,** online gamer behaviour and how different factors affect it (Castronova and Wagner, 2011; Eisenbeiss *et al.*, 2012) and motivation for playing online games (Verhagen *et al.*, 2012; Wang *et al.*, 2012; Billieux *et al.*, 2013; Wu and Holsapple, 2014).

2.1 Motivations for playing online games

To further examine the possible motivations players might have when playing online games, it is useful to look at research done by Yee (2006a), in which he proposed that online game usage motivation is subjective by compiling data on user motivations into three main

sections: achievement (e.g. competition), social (e.g. teamwork) and immersion (e.g. role-playing) components. As Eisenbeiss *et al*. (2012) claimed in their research, user participation in virtual worlds is usually one-dimensional, i.e. most players have one clear motivation for playing an online game. The authors also conclude that these groups' characteristics differ considerably (e.g. how much they play or spend money in-game on average). Therefore, it is crucial to go through each one of Yee's (2006a) motivational factors and look how subsequent research define these proposed segments.

Achievement can be examined from a couple of different perspectives: Yee (2006a) provides three sub-topics achievement in playing online games, namely advancement, mechanics and competition. From a materialistic viewpoint, players may feel motivated to play an online game based on the rewards they receive, or for example when competing against other players and winning (for example Chang and Zhang, 2008). Furthermore Hainey et al. (2011) found that especially people who prefer both multiplayer and online games to single player and offline games ranked competition, co-operation and recognition the highest when examining motivations for playing video games. As an interesting side note, it has been shown that especially achievement-oriented players are prone to problematic online game usage, i.e. addiction (Yee, 2006a; Billieux *et al.*, 2013). As with any case of addiction, Billieux et al. (2013) remind that more often than not players are only highly involved in an online game, and no negative side effects permeate into players' daily lives. Indeed, online games have been shown to present a unique challenge when determining the differences between addiction and high involvement (Charlton and Danforth, 2007).

Yee's (2006a) social component consist of three sub-topics as well: socializing, relationship and teamwork. It is postulated that virtual worlds are excellent platforms for facilitating social interactions, especially on a group level due to their rich environment (Castronova, 2005; Yee, 2006b). Belonging to a group gives players more chances to display their status through e.g. virtual items and seek acceptance, and research by e.g. Mäntymäki & Salo (2011, 2013) found that a larger perceived social network in an online game was a predictor for both online game usage and game item purchase intention. Especially structured online games can require co-operation between players by default, and teamwork-oriented players have been shown to perform better in these environments (Eisenbeiss *et al.*, 2012). Furthermore, it was discovered by Griffiths, Davies and Chappell (2004) that social factors

were the most important aspect of online games (Everquest in this case) for both adolescent and adult players, indicating that people play online multiplayer games mainly to satisfy a social need, be that socializing, developing relationships or teamwork.

Finally, the third main component of Yee's (2006a) framework comprises of four immersion-related sub-topics: discovery, role-playing, customization and escapism. Online games can be positioned under the label of "pleasure-oriented" information systems (IS): unlike productivity-oriented systems (e.g. Microsoft Word), pleasure-oriented IS are mainly used to provide fun, enjoyment and a "break" from the daily chores and other worries (Sun and Zhang, 2006). This notion was expanded on by Wu and Holsapple (2014), who found that especially intrinsic and motivations based on emotion, such as escapism, enjoyment and arousal derived from the IS are primary drivers in using pleasure-oriented IS (i.e. online games). The authors use this finding to argue that traditional extrinsic motivators, such as perceived usefulness in TAM (Davis, 1989), do not explain the full situation with pleasure-oriented IS. This finding is further supported by Cha (2011) who found that construct in TAM are quite unsuitable in explaining consumers' purchase intentions of virtual items in an online store.

One unique aspect of online games is that users can generally choose the gender of their avatar, this leads to interesting speculations about users' identification with their avatars (Paik and Shi, 2013). Especially adolescent gamers are less likely to gender swap in-game and more likely to "sacrifice" real life things such as education or work in order to play online games than older, more adult gamers (Griffiths, Davies and Chappell, 2004). It was noted by Mäntymäki & Salo (2015) that adolescent motivations for playing online games are an area that requires further research: the vast majority of current research focuses on examining usage motivations as a whole, the motivations of adults specifically, or then the differences between adult and teenage players are merely a side note when analyzing the results, with the notable exception of research done by Griffits et al. (2004). Although it is not the objective of this research to fill this gap in current knowledge, it would provide an excellent avenue for further research.

One final touched upon by Billieux *et al.* (2013) and Eisenbeiss *et al.* (2012) is that motivations for playing online games can be heterogenous, i.e. users play online games in order to satisfy many different needs at once. The authors use guilds as an example,

showing that motivations for belonging to a guild can include all of Yee's (2006a) proposed components of online game playing motivations (achievement, social and immersion). An interesting finding by Chang & Zhang (2008) states that an individual's high level of materialism is an indicator of their motivation for playing online games, i.e. consumers with a higher materialistic value are more motivated to play online games than consumers with a low materialistic value. Supporting the initial findings by Billieux et al. (Billieux *et al.*, 2013) and Eisenbeiss *et al.* (2012), Cha (2011) also found that motivations for playing online games can be heterogenous.

These studies suggest that online games are quite difficult to study, as various factors may differ between different types of games, the people who play them, and inside the games themselves (Shelton, 2010). It is therefore important to note that many of the referenced research articles use only one game as a research context in order to mitigate these potential issues, regardless of the game genre.

2.2 Online game categories

Aside from typical divisions made between different game genres (puzzle & social, action, role-playing game etc.), online games can be roughly divided into two broad main categories: structured (e.g. World of Warcraft) and unstructured (e.g. Second Life) online games. This dichotomy has been presented by many researchers, usually with different names, for example online games (structured) and virtual worlds (unstructured) by Lehdonvirta, Wilska and Johnson (2009) or game-oriented virtual worlds (structured) and freeform virtual worlds (unstructured) by Guo and Barnes (2009). For the sake of clarity, in this paper structured online games are referred to as "online games" and unstructured online games are referred to as "virtual worlds", with emphasis placed on the game's structure (or lack thereof) when necessary.

Unstructured online games can be defined as "(social) virtual worlds" that possess three main characteristics: they are embedded in a 3D digital environment, they are inhabited by people, who are in turn represented by virtual avatars that are capable of simultaneous movement and interaction with other players and the world itself, and that users do engage in at least some exchange processes with each other (Bell, 2008; Mäntymäki and Salo,

2011; Eisenbeiss *et al.*, 2012). These processes can be further divided into social (chatting with other players), material (trading virtual items) and monetary (exchanging virtual currency) processes (Eisenbeiss *et al.*, 2012). It is further proposed that users in these (social) virtual worlds can express themselves through verbal and non-verbal actions more conveniently than for example in simpler virtual communities, such as Facebook or Myspace, or more structured online games, partly explaining their popularity (Chung, 2005; Jung and Pawlowski, 2014b). The reasons for this are in the fact that unstructured virtual worlds are usually focused on social interactions between users instead of users' interactions with the game world (Jung and Pawlowski, 2014b; Mäntymäki and Riemer, 2014). However, as was previously discovered by Griffits et al. (2004), satisfying social needs is the most common reason for playing any type of online game, including structured online games. Jung & Pawlowski (2014a) explain that the "free-form" nature of interactions between players in unstructured online games is what makes them unique from structured online games.

Structured online games, namely World of Warcraft, can be described by being task-oriented: they have clearly defined character roles and goals and also a clear line of progression embedded in the game world, which the players follow, acquiring better items and skills in order to proceed further into the game (Eisenbeiss *et al.*, 2012; Billieux *et al.*, 2013). Another defining characteristic in these structured online games is the presence of "guilds" or "clans", the specific name depending on the game. Guild members form their own community inside the online game community itself, and often have their own guidelines set up by their respective guild master. Guilds usually have an instant messaging system, which allows for more communication between the guilds' members, which in turn can lead to the users' increased game participation and enjoyment of the game, as the guild community increases the possible chances of social interaction between the game users (Billieux *et al.*, 2013; Moon *et al.*, 2013). Guilds are also used as a basis for completing structured online games' most difficult tasks, as experience and clear communication between players is usually needed (Ducheneaut *et al.*, 2007).

In addition to this established division into structured and unstructured games, online games have also found other areas to thrive in. Due to the rising popularity of online games and the ever-present change brought about by digitalization, online games have been adopted in

new contexts in recent years: because of their engaging features, online (computer) games have been widely used as for example a new medium for providing educational content (Moreno-Ger *et al.*, 2008; Hainey *et al.*, 2011; Hwang, Wu and Chen, 2012). This "gamification" of more traditional tasks has been utilized with positive results in other areas as well, although its effects are greatly dependent on said contexts and the people who are subject to gamification (Hamari, Koivisto and Sarsa, 2014).

2.3 Online game business models

Having risen in popularity in the last couple of decades, online games have also undergone changes to their business models, as the traditional subscription based revenue model has been largely overtaken by free-to-play games with microtransactions as the core revenue model (Alha *et al.*, 2014). However, it is important to note that using a subscription based revenue model does not prevent the game developers from using microtransactions in-game in the form of e.g. additional cosmetic items or pets in World of Warcraft (Guo and Barnes, 2012). It is therefore important to go through the most important aspects of subscription based and free-to-play based revenue models, and how offering microtransactions in-game can affect gameplay.

As was previously mentioned, traditionally online games have operated on a subscription-based revenue model. This means that after purchasing the game itself, players would have to pay an additional (usually monthly) subscription fee to keep playing the game. After purchasing the game, the players can renew their subscription at any time in the future, thus being able to start playing again at their leisure (Blizzard Entertainment, 2018). However, recently this has started to change, as free-to-play games have significantly risen in popularity during the last couple of years (Alha *et al.*, 2014). This has prompted some online games using the subscription-based revenue model to completely revamp their games, and switch to a free-to-play model. However, this transition is not always easy, as changing the revenue logic for an online game requires changing the service, i.e. the online game, as well to suit the new revenue logic (Hamari and Lehdonvirta, 2010).

The introduction of free-to-play games changed the playing field considerably, as now players could acquire the game for free, while the game developer would encourage players to purchase game items while playing (Alha *et al.*, 2014). Now the game developers did not need to rely on monthly subscription revenues, and instead could focus on offering smaller, often more targeted online game items for players, and Alha *et al*. (2014) remind that this revenue model has usually resulted in significantly increased revenue for game developers. However, game developers have faced scrutiny over these choices though, as some have pointed out that free-to-play games give game developers the ability to limit the "free" portion of the game considerably through for example item degradation, inconvenient gameplay elements, inventory mechanics or allowing real money as the only medium of exchange in some instances (Hamari and Lehdonvirta, 2010). The authors remind that this balancing between knowingly degrading the playing experience to drive in-game purchases and making the game enjoyable enough for users to keep playing is the core issue with this free-to-play revenue logic.

Players' willingness to purchase in-game items and attitudes towards in-game item purchases also play a much bigger role in free-to-play games, as these purchases are usually the game developer's main source of revenue (Hamari and Lehdonvirta, 2010). This can become problematic to game developers, since gameplay elements allowing players to progress in the game through purchases made with real money can break the "magic circle" and degrade other players' immersion and enjoyment of the online game, thus potentially reducing their willingness to play the game and make in-game purchases (Lin and Sun, 2007; Hamari and Lehdonvirta, 2010; Hamari, 2015). Many outlets have also voiced their concern over ethical issues or exploitative behaviour, such as targeting microtransactions to young children in free-to-play games, or restricting gameplay content behind paywalls (Hamari and Lehdonvirta, 2010; Alha *et al.*, 2014).

However, microtransactions can also be a way for players to support a game developer they feel deserves their money: Gattig et al. (2017) found this "social payment" to be a key factor explaining players' purchase motivations regarding cosmetic in-game items in a free-to-play game. While this construct holds true in free-to-play games, an avenue for further research would be to look if social payments explain players' purchase motivations in subscription-based or otherwise paid game.

2.4 The role of e-sports in online gaming

Electronic sports (or e-sports for short) has been growing exponentially both financially and in popularity: during 2017 worldwide e-sports revenues are expected to reach 696 million U.S. dollars, and they are further expected to grow to 1.5 billion U.S. dollars by 2020 (Warman, 2017). In the same article, Warman (2017) estimates that during 2017, global e-sports audience is expected to be 385 million spectators in size, with 191 million "enthusiasts" and 194 million "occasional viewers". As the e-sports industry is still quite young, research on its characteristics has been scarce at best. Only recently has there been a concerted effort to determine any and all unique aspects of e-sports, such as its exact definition and what is its relation to traditional sports (Wagner, 2006; Witkowski, Hutchins and Carter, 2013; Hamari and Sjöblom, 2017). The term "e-sports" alludes to similarities to "real" sports, and using this perceived connection as a suitable groundwork, e-sports can be defined as:

> *"A form of sports where the primary aspects of the sport are facilitated by electronic systems; the input of players and teams as well as the output of the eSports system are mediated by human-computer interfaces."* (Hamari & Sjöblom, 2017, p. 211).

While competition in online games has existed for a long time before e-sports started to grow in popularity, e.g. guilds in World of Warcraft competing on who can complete a task the fastest (Ducheneaut *et al.*, 2007), the emergence of new broadcasting technologies, such as live streaming platforms like Twitch, and more sophisticated online games have resulted in professional teams, leagues and tournaments being created around certain video games (Witkowski, Hutchins and Carter, 2013; Hamari and Sjöblom, 2017). Understandably, every single online game is not (currently) present in the e-sport environment. Those that are, however, present yet another dynamic to be addressed, namely the difference between the "casual" and "competitive" sides of the online game in question (Hamari and Sjöblom, 2017).

As a result, this dichotomy can be extended onto the players who play or watch e-sports of said online games as well. As with spectators, online game players can be divided into groups based on their interest in e-sports: while casual gamers can play online games to satisfy a need for escapism, fantasizing or "virtual tourism" (Molesworth, 2009), e-sports allow the players to satisfy their competitive needs in addition to hedonic needs (Weiss and

Schiele, 2013). This difference is important to take into account, since a significant portion of e-sports spectators are usually also players of the same game (Seo and Jung, 2016). E-sports have also changed the playing field in the sense that professional (or amateur) competitive players are usually subject to tighter rules than casual players (Seo and Jung, 2016) while in tournaments, both online and offline, resulting in a different game experience for different players. An interesting avenue for further research would be to explore players' perceptions of the online game they play in light of this context.

It has been found that spectating e-sports is somewhat positively linked to participating in gambling activities (Macey and Hamari, 2018). Indeed, the research by Macey and Hamari (2018) presents a worrying argument detailing the connection of e-sports and gambling coupled with the increasing amount of free-to-play online games on the market that offer gambling-like microtransactions, such as loot boxes or skins, as a part of their main revenue logic. Although no connection between simply playing a game and gambling was found, it has been argued that belonging to a team (or a guild in the case of World of Warcraft) increases players' loyalty to keep playing an online game (Teng and Chen, 2014). One could surmise, then, that supporting a specific e-sports player or team in a specific online game, and playing said online game, could be indirectly linked to gambling participation; a definite avenue for future research.

3. VIRTUAL GOODS AND CONSUMER BEHAVIOUR

In this section, the definition of virtual goods is established and further inspection of different kinds of virtual goods and their characteristics in online games is done to form an informed view on the subject. Furthermore, the main points pertaining to virtual consumer behaviour: purchasing behaviour online, virtual identity and its implications to real-life identity and motivations for playing and purchasing online game items are all examined in detail in this section.

3.1 Virtual goods

As literature in this field is still scarce, it is best to establish common ground on what constitutes as a "virtual good". The most basic definition is to simply define virtual goods as goods that exist in a virtual environment (Oh and Ryu, 2007). However, this is a very broad definition, and like Lehdonvirta (2009) reminds, this definition by default includes things like music files or movies in it. In order to separate these "information goods" from "virtual goods", Fairfield (2005) proposes three main characteristics that define virtual property, and by extension virtual goods since they can be seen as a subset of virtual property (Lehdonvirta, 2009). According to Fairfield (2005), the definition of virtual property is:

> *"Virtual Property is Rivalrous, Persistent, and Interconnected Code that Mimics Real World Characteristics."* (Fairfield, 2005, p. 1053).

Rivalrousness refers to the uniqueness of virtual items: if one person uses a virtual item, others cannot use it at the same time (e.g. a website domain name, which are unique). The persistency of virtual items is defined by virtual items existing for some period time in order to be considered valuable, e.g. items that disappear as soon as one closes the game will most likely not be considered to be very valuable. Interconnectedness refers to the fact that items that exist in isolation cannot be considered virtual goods: if an item only exists on one person's computer, it does not affect any other systems or users, and therefore is not a virtual item.

Fairfield's (2005) definition postulates that virtual goods mimic real-life goods. However, this definition has been challenged more recently when considering virtual goods specifically: Lehdonvirta, Wilska and Johnson (2009) remind that virtual goods are not any less "real" than real goods, only that they are computer-mediated. It has been suggested that digital virtual goods can be seen as exotic, diverse set of items that can't be purchased in the real world, adding to the users' virtual gaming experience and user interest (Ho and Wu, 2012; Denegri-Knott and Molesworth, 2013). Lehdonvirta (2009) goes even further in his definition and proposes that virtual goods should be labeled as an entirely new, independent type of goods: they can be "inspired" by certain real-life items, but their possible uses and attributes are so different from physical goods that they should not be regarded as digital counterparts of real-life items.

Furthermore, virtual items in online games especially can be mass-produced with little cost or effort to the game developers (Lehdonvirta, 2009). Subsequently, there are usually also bought and sold in large quantities, which makes them resemble more traditional consumer commodities. This also makes virtual online game items quite different from other kinds of virtual goods, such as website domain names, which are usually unique. Having established that virtual goods have unique qualities and are not exact copies of real life items, this paper uses Lehdonvirta's (2009) more specific definition to distinguish virtual game items from other virtual items. Virtual game items are:

> *"…the subset of virtual assets that can be mass-produced and as a result are frequently bought and sold like conventional consumer commodities."* (Lehdonvirta, 2009, p.100)

Simply having the possibility to be mass-produced does not mean that virtual goods are abundant, however: as Castronova (2006) points out, virtual goods can take the roles of luxury goods because of the concept of artificial scarcity (closely linked to rivalrousness by Fairfield, 2005). Castronova (2006) and Lehdonvirta, Wilska and Johnson (2009) argue that since the cost of "producing" virtual goods is essentially non-existent, there is no reason not to offer virtual goods to every participant in a virtual world from a technical viewpoint. This is not usually the case, however, as for example many online games use in-game purchases as their primary revenue logic due to its effectiveness (Hamari and Lehdonvirta, 2010; Alha *et al.*, 2014). With this business perspective in mind, both Castronova (2006) and

Lehdonvirta, Wilska and Johnson (2009) conclude that in a virtual world, consumers may prefer artificial scarcity over abundance.

Although artificial scarcity can be a questionable marketing technique in an environment where there is no barrier for producing as many items as possible, this perception of exclusiveness is enticing to players (Hamari and Lehdonvirta, 2010). The authors also remind that due to new content or updates introduced to any online game, online game items are usually always designed with planned obsolescence in mind. This is especially true with functional props (defined below) and structured online games, as the players' natural progression through the game content warrants them to change in-game equipment to keep up with the requirements of the game (Guo and Barnes, 2009; Eisenbeiss *et al.*, 2012). Virtual item usage might also be artificially constrained by placing a time limit or "durability" on items, thus requiring players to purchase additional items as the old one expires or "wears out" (Hamari and Lehdonvirta, 2010). Especially free-to-play games may be subject to this kind of restricting game content with mandatory monetary commitments from the players, i.e. paywalls (Alha *et al*., 2014).

In addition, this definition of virtual goods can be used to describe goods other than online game items as well: for example, Turel *et al*. (2010) defined four different value types when they examined ringtone adoption by mobile phone users: visual and musical appeal value, social value, playful value, which is related to perceived playfulness by Guo and Barnes (2009), and monetary value, which has also been examined by Park and Lee (2011a). Although examining these other kind of virtual goods is not within the scope of this paper, it is important to note that this definition is usable outside this specific context of online game items.

As there are many different views on how to define virtual goods apart from real goods, there is an equal amount of different descriptions of virtual goods' characteristics. Therefore, it is important to examine a few of the most common ways to describe virtual goods and their possible differences, both in terms of virtual goods themselves and the values associated with their purchase intentions.

Virtual goods can be described as having three main values associated with them: functional value, emotional value and social value (Sheth, Newman and Gross, 1991; Sweeney and

Soutar, 2001; Lehdonvirta, 2009). Guo and Barnes (2009) explored further and they suggested that game items have three values that influence users' purchase intentions: perceived playfulness, character competency and requirements of the quest context. Perceived playfulness refers to the users' internal motives for acquiring virtual items, and it includes the users' feelings of concentration, curiosity and enjoyment with the game. Character competency relates to what could be called "pragmatic" virtual goods that directly enhance the characters performance in some way. The requirements of the quest system refer to certain items or props needed to proceed with certain in-game missions. Lehdonvirta (2009) arrived at a similar conceptual categorization with three distinct purchase drivers of virtual goods: functional, hedonic and social drivers. It is clear that once examined more closely, these definitions are quite similar with only some semantic differences in terminology.

However, the exact purchase drivers may vary depending on whether the game in question is structured or unstructured (Eisenbeiss *et al*., 2012), and whether the item in question is considered to be functional or purely cosmetic (see e.g. Guo and Barnes, 2009; Park and Lee, 2011a). For example, purely cosmetic items can rarely be used to advance one's progress in a structured online game, thus rendering their examination through character competency quite unnecessary. Likewise, using the requirements of the quest system to examine items found in an unstructured online game may be infeasible, as such system might not be the main property of an unstructured online game, or it might be completely absent (Guo and Barnes, 2007). Conversely, examining the properties of a purely functional online game item through for example social values may not be the best course of action, as these values may relate to said item only indirectly, if at all (Oh and Ryu, 2007). Therefore, it is best to categorize online game items to examine them more accurately.

Virtual items can be further divided into functional and nonfunctional props. Functional props can be used to help the player in completing certain tasks, adding abilities or increasing their character's performance and functionality, while nonfunctional "cosmetic" props are used purely for decorative purposes, and to convey social or emotional meanings and qualities for the consumer and other users (Lehdonvirta, 2009; Kim, Gupta and Koh, 2011; Shang, Chen and Huang, 2012). Examples could be for example a decorative country flag in Farmville as a nonfunctional prop, which offers no real benefit for the player except for conveying a certain message to other players. Better weapons and equipment in World of

Warcraft are examples of functional props, which directly affect the avatar's performance capabilities in-game.

Interestingly enough, typically functional props can have aesthetic, hedonic values associated with them (Oh and Ryu, 2007), making it difficult to ascertain the motivations behind decision to purchase, as they might differ between users and situations (Lehdonvirta, 2009). It should be noted that these kinds of items do not fit into the traditional dichotomy of functional and nonfunctional props, suggesting that either the definition of functional props should be modified to include cosmetic attributes, or these "hybrid" props should have an entire category of their own (Lehdonvirta, 2009), as consumers might then have a larger combination of functional, social or hedonic motivations for purchasing such items (Lehdonvirta, 2009).

3.2 Virtual consumer behaviour

The introduction of information technology into the everyday life of consumers has transformed the process of shopping into a virtual form, since now the shop itself, the customer, or both, can exist in an online environment (Koufaris, 2002). Following this transition, it has been speculated that online customer behaviour might differ from offline customer behaviour (Cho *et al.*, 2002) and how do utilitarian and hedonic shopping motivations transition to the online shopping environment (To, Liao and Lin, 2007) and furthermore shopping online for either virtual or real goods has been examined (Cha, 2009). The growth in online shopping in general has been substantial during the last decade, showing that it is faring well despite the poor economic situation during recent years. According to report by Smith and Anderson (2016), 79% of the total populace in the United States have made purchases online.

Previous research (Curtis *et al.*, 2011; Ciornea, 2013) on customer behaviour has shown that customers who are satisfied with the product tend to make repeat purchases over time, and on the other hand feel less inclined to purchase the same product again if they feel dissatisfied with it. This behaviour can be applied to symbolic virtual goods purchase as well. The difference is that instead of an actual store, the customers may feel satisfaction or

dissatisfaction with an online game, as in many online games the “marketplace” is embedded in the actual game client as an in-game transaction platform (Guo and Barnes, 2009), e.g. World of Warcraft, the popular MMORPG game, has an in-game store that can be accessed directly while playing or from the main menu, without needing to pause or otherwise exit the game.

This may not always be the case, though: users may sometimes perceive the game and the marketplace as two separate entities, especially if there is no in-game transaction platform or if it is poorly constructed (for example Guo and Barnes, 2009), indicating that enjoyment with one does not automatically transition to the other. However, e.g. Guo and Barnes (2009) did find out that perceived quality of the online game encouraged players to use in-game transaction platforms to purchase online game items. It is important to note that players tend to favor in-game transaction system to e.g. web-based transaction systems, mainly due to perceived performance and security reasons (Guo and Barnes, 2009). These results were also found by Domina, Lee and MacGillivray (2012), who found that consumers’ perceived enjoyment and control of the online game positively affected their shopping intentions. Expanding on perceived control, it is described as:

> “*…an individual’s perception of their ability to navigate successfully through SL (Second Life) and the have the site respond to inputs. In other words, the challenge and skill level have to be in balance before flow can occur*” (Domina, Lee and MacGillivray, 2012, p. 617).

This definition implies that experienced players and new players perceive their control of the game differently. Although there are some studies examining what makes new players “stick” to an online game, i.e. how players proactively keep playing an online game of their choice (Wu, Wang and Tsai, 2010), there is currently no research that examines any possible differences in factors influencing shopping motivations in online games between experienced and new players. A common limitation in research in this field is that players willing to answer questionnaires or to partake in interviews are more likely to be experienced, more engaged players, thus creating a bias in the data that over-emphasizes the attitudes and feelings of veteran players over new players, or highly active and engaged players over less engaged and inactive online games players (for example Hamari, 2015; Hamari and Sjöblom, 2017).

The difference to an ordinary online store is that online game stores offer “virtual goods” in addition to “real goods”. Real goods purchased from an online store can still be used offline, but virtual goods are usually bound to a certain web page or online game or community world (Cha, 2009). In addition, the purchase intentions may differ between real and virtual goods, even when bought from the same store: the perceived benefits and risks associated with online shopping affect the purchase intentions of real items, but do not affect the purchase of virtual items (Cha, 2011). Interestingly, the authors found that only social norms and gender, i.e. consumer characteristics, seem to affect the intention to purchase virtual items from an online store, which slightly contradicts the findings by Guo and Barnes (2009) and Domina, Lee and MacGillivray (2012), who found that external reasons, e.g. the quality of the online game or security concern about the transaction platform, also influenced consumers’ intention to purchase virtual items.

When players do choose to spend money on an online game item, their spending habits can differ as well: this has been examined by e.g. Wohn (2014), who examined the differences in actual purchasing patterns concerning real money purchases between high spenders and low spenders. Interestingly, high spenders tend to purchase a lot of purely cosmetic goods, while low spenders prefer functional, especially consumable goods. This creates an apparent division between “day-to-day” virtual item purchase and “advanced” virtual item purchase that offer some evidence for the desired avenue of further research first postulated by Guo and Barnes (2012). Wohn’s (2014) initial findings on players’ actual purchasing patterns present an interesting avenue for further research: if high-spenders and low-spenders purchase different kinds of items, do they also play the game, or have different motivations for playing the game, differently. Wohn (2014) found that especially the social aspects of an online game are important factors in determining which players are more likely to spend any money on purchasing virtual items at all, but did not address this apparent gap in current research on differences on motivations for playing online games between high and low-spenders.

Moreover, while a single online game usually has a single online game store associated with it, game developers can have multiple online games that they have published. This can lead to a situation where a developer’s games have their own in-game transaction platforms, but there may also be a web-based transaction platform that is more akin to a classical online store from which consumers can purchase real-life products in addition to just online game

items (Cha, 2011). A good example of this is Blizzard's Battle.net platform, from which consumers can purchase online games, online game items and for example real life apparel or props relating to any or all of Blizzard's games. Although for example Guo and Barnes (2009) examined usage intention between online games and their transaction platforms, no research currently exists that examines if or how consumers' usage intentions transfer from one transaction platform to another, be that between a developer's many online games or between a game's transaction platform and a more classical online store.

It has been shown that customer behaviour is based on two values: utilitarian and hedonic value. Utilitarian value relates to the task-oriented aspects perceived in a product or the act of shopping, namely utility and effectiveness. Hedonic value means the emotional side of the products and purchasing, for example enjoyment or escapism (Babin, Darden and Griffin, 1994). Research has been done to inspect how these values affect customer behaviour and how customers perceive goods when making a purchasing decision when for example shopping for clothes (Piacentini and Mailer, 2004). It has been shown that the differences between utilitarian and hedonic shopping have not been researched properly in online games: distinguishing between so-called day-to-day virtual item purchase behaviour and advanced, sophisticated virtual item purchased behaviour has only been research by in-depth by Wohn (2014), and is identified by Guo and Barnes (2012) as an avenue for future research. The authors propose a longitudinal study as a suitable tool with which to explore this subject.

Facilitated by the online environment, and especially online games, people have the possibility to assume a different identity, or remain completely anonymous while consuming goods and services (Shang, Chen and Huang, 2012). It has been proposed that consumers who remain anonymous in an online game tend to make purchases for emotional reasons more commonly than non-anonymous consumers, who also emphasize social reasons (Shang, Chen and Huang, 2012). The authors also point out that anonymous users have higher intention to buy cosmetic virtual goods in general compared to non-anonymous users. These results are partly contradicted by e.g. Hamari's (2015) research, in which enjoyment of the game, i.e. emotional reasons, does not directly increase the willingness to buy virtual items, although an indirect link was found. This can be partly explained by Hamari (2015) not examining anonymity as a moderating factor in his research, while Shang, Chen and

Huang (2012) specifically focused on researching this phenomenon. This possibility for consumers to hide their “real” self and assume multiple identities between offline and online environment is worth of further investigation.

It has been suggested that consumers build an online identity (represented by an in-game avatar) in addition to their “real” identity to operate in an online game, and that consumers’ initial interactions with each other or e.g. companies are through these avatars, leading to a situation where participants’ socio-demographical aspects are largely unknown to each other (Bélisle and Bodur, 2010). However, Parmentier and Rolland (2009) identified four distinct types of identity positioning that consumers partake when transitioning from their real-life identity into a virtual one: duplication, improvement, transformation and metamorphosis. While some of these reinforce one’s identity, others completely change it, showing that consumers’ offline and online identities are interconnected. This identity positioning is not restricted to just individual consumers, as abstract entities, such as companies, can utilize an avatar to form an identity in a virtual world to interact with other avatars just as well (Bélisle and Bodur, 2010).

While connections between real-life and virtual identity positioning have been shown to exist, consumer behaviour has also been shown to differ between offline and online environments: Jung & Pawlowski (2014a and 2014b) found that factors affecting especially hedonic consumption differ between real and virtual worlds. The authors found that common restrictions or constraints, such as violating some cultural norms, may be more relaxed in a virtual setting, and that in a virtual world hedonic consumption is based on the consumer’s virtual self rather than their real one. Furthermore, the authors remind that virtual goods are usually cheaper than real life goods, allowing for a more indulgent approach. These findings appear to be in line with what Shang, Chen and Huang (2012) discovered: anonymity in an online game allows consumers to try something new through hedonic consumption they possibly would not like others to know about in the real world. However, one must also consider Lehdonvirta’s (2009) argument that virtual items are not merely copies of their real-life counterparts, meaning that comparisons between real-life and virtual items and their usage intentions should be done with caution.

However, as Young and Whitty (2010) postulate, even in an online game environment where morals may be relaxed, and taboos can be more easily broken, consumers strive to

harmonize their identity and actions across domains, i.e. both in virtual and real worlds. This argument is partly in line with Parmentier and Rolland (2009) in the sense that players who identify their virtual self as the true self (improvement) strive to harmonize their virtual and real selves into one. According to Young and Whitty (2010), this can either be done by transferring the qualities of the online character into the player, or by spending more time in game, i.e. the virtual space where the player's ideal self exists. Although the authors' contentions are largely speculation at the moment, the arguments present an interesting avenue for further research in a more concrete approach, or as a framework for examining e.g. high involvement, immersion or addiction to online games (Charlton and Danford, 2010; Billieux *et al*., 2013).

It should be noted that many researches in consumer behaviour in virtual environments suggest that the choice of research context (i.e. the game) is a limitation of the research (Parmentier and Rolland, 2009; Jung and Pawlowski, 2014b, 2014a). This suggests a difference in virtual consumer behaviour between structured and unstructured online games, as unstructured online games typically have more tools available with which a consumer can build a virtual identity for themselves compared to structured online games (Guo and Barnes, 2011).

Furthermore, very little research has been done to identify whether consumers identify with a single, "main" character in an online game or if they have many virtual identities. Billieux *et al*. (2013) mentioned this issue as a limitation of their research, although their study only focused on one game. This research gap is further extended, as consumer can be active in multiple online games of different types at the same time, with possibly different identities associated with each character in each game. Currently, no research exists that examines the causes or effects of this phenomenon. One possible avenue of further research could be examining how Parmentier's and Rolland's (2009) identity positioning framework would explain transitioning from one virtual self to another, instead of transitioning from a real-life self into a virtual self. It would also be interesting to explore how many virtual identities affect Young and Whitty's (2010) arguments on player's need to harmonize their virtual and real selves, assuming their ideal self is their virtual self, or one of their virtual selves.

Balancing the intention to buy online game items and the intention to play said online game can be difficult: for example, Hamari (2015) found that enjoyment of the online game directly decreases the consumers' willingness to buy virtual goods, while at the same time it increases their willingness to play said online game more. This creates an inherent paradox in online game design, where developers have to create a game that is enjoyable enough that consumers keep playing it, but frustrating to such a degree that consumers are also more willing to spend money on in-game purchases (Hamari and Lehdonvirta, 2010). It is important to note that Hamari's (2015) research was done in the context of free-to-play (F2P) online games that differ in their revenue logic from subscription based online games: while subscription based online games strive to retain their user base, F2P games must constantly balance between retaining users and monetizing content (Hamari and Lehdonvirta, 2010). Therefore, exploring how this difference in revenue logic affects game design, and subsequently the primary factors of consumer purchase or playing intentions would be extremely valuable.

E.g. Childers *et al.*, (2001), To, Liao and Lin, (2007) and Chiu *et al.*, (2014) all found that utilitarian and hedonic values affect repeat purchasing decision, but for different reasons: either utilitarian or hedonic values are more important depending on the product or service about to be bought. Perceived risk was found to be a moderating factor in repurchase intentions, positively affecting hedonic values and negatively affecting utilitarian values (Chiu *et al.*, 2014)**.** To, Liao and Lin, (2007) discovered that utilitarian motivation affected intention to search and buy, whereas hedonic motivation had an impact on intention to search, and an indirect impact on intention to buy.

Expanding on the hedonic value, for example different kinds of online games could be described as having pleasure-orientated qualities associated with them, meaning that not all information systems (IS) are used for purely utilitarian needs (Wu and Holsapple, 2014). Wu and Holsapple (2014) found that escapism, enjoyment and arousal were paramount influences on behavioral intention, but perceived usefulness was not. This indicates a difference between pleasure-oriented and productivity-oriented IS. It would therefore be important to know what aspects of the online game the users enjoy in order to convert them from users to consumers (Mäntymäki and Salo, 2011)**.** In addition, user behaviour in online games can differ depending on what kind of items or objectives the user wishes to purchase

or accomplish, with different kinds of virtual goods used to satisfy different kinds of needs and different kinds of players having distinct motivations for playing inside the game (Yee, 2006a; Jung and Kang, 2010; Shelton, 2010).

4. CONCEPTUAL FRAMEWORK

This section will cover the formation of the conceptual framework and research hypotheses. The framework will consist of constructs introduced by previous research relating to TCV but modified to be applicable to online environments. The research hypotheses will be formed based on discussion about the different constructs.

4.1 Theory of consumption values

The theory of consumption values (TCV) was first proposed by Sheth, Newman and Gross (1991). In their research they identified five different category values for consumption: functional value, social value, emotional value, conditional value, and epistemic value. Functional value is described as:

> *"the perceived utility acquired from an alternative's capacity for functional, utilitarian, or physical performance. An alternative acquires functional value through the possession of salient functional, utilitarian, or physical attributes. Functional value is measured on a profile of choice attributes"* Sheth, Newman and Gross (1991), p.160.

Social value is:

> *"the perceived utility acquired from an alternative's association with one or more specific social groups. An alternative acquires social value through association with positively or negatively stereotyped demographic, socioeconomic, and cultural-ethnic group. Social value is measured on a profile of choice imagery."* Sheth, Newman and Gross (1991), p.161.

Emotional value means:

> *"the perceived utility acquired from an alternative's capacity to arouse feelings or affective states. An alternative acquires emotional value when associated with specific feelings or when precipitating or perpetuating those feelings. Emotional value*

is measured on a profile of feelings associated with the alternative." Sheth, Newman and Gross (1991), p.161.

Epistemic value is defined as:

> *"the perceived utility acquired from an alternative's capacity to arouse curiosity, provide novelty, and/or satisfy a desire for knowledge. An alternative acquires epistemic value by questionnaire items referring to curiosity, novelty or knowledge."* Sheth, Newman and Gross (1991), p.162.

Conditional value is:

> *"the perceived utility acquired by an alternative as the result of the specific situation or set of circumstances facing the choice maker. An alternative acquires conditional value in the presence of antecedent physical or social contingencies that enhance its functional or social value. Conditional value is measured on a profile of choice contingencies."* Sheth, Newman and Gross (1991), p.162.

TCV has been used before to explain customer motivations for buying different kinds of products, for example green products (Lin and Huang, 2012) and music (Chen, Shang and Lin, 2008) **.** Previous research has also examined the use and acceptance of ringtones in a virtual environment (Turel, Serenko and Bontis, 2010) and other instances regarding for example digital goods: many studies have used the theory of consumption values to examine consumer behaviour in the online environment, and have proven that the framework and values provided by TCV affect consumer purchasing behaviour and decisions (Sheth, Newman and Gross, 1991; Park and Chung, 2011; Park and Lee, 2011; Ho and Wu, 2012; Mäntymäki and Salo, 2015). As online game items purchasable with real money were (and still are) such a new phenomenon, Park and Lee (2011) propose a modified version of the theory of consumption values (MTCV) as an adjustment in order to include online games as well.

For example, Park and Lee (2011) suggest that conditional values and epistemic values should not be included in the TCV, or modified theory of consumption values (MTCV) when inspecting behaviour in online games. The authors argue that as gamers can always choose

the moment when they will buy virtual items, conditional values are nullified, and epistemic value cannot be appropriately used to describe online game items. They introduce the MTCV to better understand the purchasing decision made when buying virtual goods. Park and Lee (2011) showed that their model includes four values instead of the original five, adjusting them in order to suit the online game environment better: enjoyment value, character competency value, visual authority value and monetary value. Enjoyment value relates to increasing fun via item purchase when playing the game (emotional value), character competency refers to purchasing items to become stronger in-game (functional value). Visual authority value means purchasing items to increase the users' status in a social context (social value). Monetary value is a new factor, though touched upon by Turel, Serenko and Bontis (2010) and Whang and Kim (2005), and it refers to purchasing items because they are reasonably priced, viewed as cost-effective investments or other economic reasons, such as trading (Whang and Kim, 2005; Guo and Barnes, 2009).

However, Park and Lee's (2011) definition of MTCV has some issues: firstly, the decision to leave out conditional values due to players being able to always purchase virtual goods is a moot point. Many online games have seasonal or "once in a lifetime" – style events, during which it is possible to purchase in-game items related to the theme. Good examples of this are World of Warcraft's Christmas celebration, or Counter-Strike: Global Offensive's Major tournaments played twice a year. The items sold during these events are usually cosmetic in nature as well, for example costumes or logos to support one's favorite team (Mira, 2017), and usually they cannot be purchased again afterwards, as the items offered in the in-game store are subject to change over time. Therefore, it can be reasoned that cosmetic goods can have conditional values associated with them, and including these values in the MTCV framework is crucial to make it as robust as possible when examining virtual items.

Epistemic values were also left out of the MTCV by Park and Lee (2011) on the grounds that they cannot be appropriately used to describe virtual items, a decision that can be argued against. To illustrate, Sheth, Newman and Gross (1991) remind that an alternative that provides just a simple "change of pace" can provide epistemic value to its user. It can be argued that cosmetic goods can do this especially in structured online games, which are task-oriented, and therefore have a lot of functional virtual items embedded in them (Guo and Barnes, 2009, 2012). Switching between task-oriented and cosmetic virtual goods can provide players with a change of pace, thus giving a potential for embodying epistemic

values (Hamari *et al.*, 2017). New releases, such as new expansion packs or just new virtual item collections, can also provide users with novelty or arouse curiosity (Castronova, 2006; Hamari and Lehdonvirta, 2010). It may be apparent that this coincides somewhat with conditional values, but Sheth, Newman and Gross (1991) remind that any or all consumption values may influence consumers' purchase decisions.

To summarize, epistemic values can also be used to describe virtual goods and should therefore be included in the MTCV to get a more thorough understanding of consumers' purchase intentions. The MTCV framework used in this study will therefore include social, emotional, epistemic, conditional and monetary values, with the actual hypotheses formed in the next section.

4.2 The framework and hypotheses

The purpose of this section is to go through the framework that will be proposed in this study, namely TCV modified to suit the context of online games. Each of its factors will be examined in detail, and research hypotheses will be formed and presented during each section. Finally, the completed framework will be presented.

As proposed earlier, the framework will be based upon the MTCV by Park and Lee (2011), with four unique values forming an integrated perceived purchasing value of an online game item. However, functional value, namely character competency, will be removed from this model, as symbolic goods are rarely constructed with functional properties in mind (Shang, Chen and Huang, 2012). This applies to online symbolic game items as well, as these are items that are designed with vanity in mind in almost every game, and it can be reasoned that users do not purchase these items for utilitarian purposes often enough to be of significance. As found by e.g. (Shang, Chen and Huang (2012), symbolic item purchase is influenced by mainly emotional and social values.

Park and Lee (2011) proposed an integrated value for examining cosmetic online game item purchase. The modified integrated value of purchasing a symbolic online game item included the enjoyment value, visual authority value, and monetary value, mirroring the original TCV. Enjoyment value relates to the original emotional value, measuring the

perceived fun and enjoyment received from purchasing a symbolic game item. Visual authority value links to the social value in the original TCV, taking into account the purchase of a symbolic game item as a way to increase one's social status in-game. Monetary value was not proposed in the original TCV, but it is an important part of the MTCV, as it examines users' perception of the cost-effectiveness of the products. This way it can be measured how enticing the users view symbolic game items from an economical perspective. However, in this paper this integrated value will not be used. Instead, each part of the original TCV will be examined separately, and constructs will be created for each section respectively to explore their viability in explaining online consumer behaviour when purchasing cosmetic game items.

As emphasis will be put more on social and emotional values, the two additional factors of the proposed framework will include perceived network size (social values) and character identification (emotional values). Therefore, social and emotional values will have two research hypotheses, while conditional, epistemic and monetary values will only have one in this study. Perceived network size will be adapted from research done by Mäntymäki and Salo (2013) regarding users' purchasing behaviour in Habbo Hotel, which found that perceived network size, among other variables, positively affected the intention to purchase items in-game. Character identification was used by Park and Lee (2011) in their essential research using the MTCV along with the integrated purchasing value of online game items. Character identification was found to have a positive impact on decision to purchase game items. However, the original model will be scrutinized as this research focuses on cosmetic game items instead of game items as a whole.

4.2.1 Emotional values

Character identification is also an important aspect of understanding online game item purchase. If the game operates on a free-to-play basis, the actual purchase is made based on decisions to use over time. Hence, it can be argued that purchasing game items can be seen as a bigger commitment to the virtual gaming experience and to the customers' relationship with the platform itself: as online game users spend more time playing, they can become more emotionally attached to their characters (Mäntymäki and Salo, 2011). This

phenomenon is not uncommon, as character identification can be related to for example identifying oneself with a “human” brand (Carlson and Donavan, 2013).

In the context of online games, or for example comic books (Belk, 1989) however, character identification literally means identifying oneself with the game character, as the game character can be seen as an online extension of the user’s social self (McDonald and Kim, 2001; Parmentier and Rolland, 2009)**.** Having this kind of emotional attachment to an online character can translate to virtual item purchase, as the users feel the need to improve their avatars’ performance, or in the case of cosmetic virtual goods, visual appearance. Character identification was used by Park and Lee (2011) in their essential research using the MTCV along with the integrated purchasing value of online game items. Character identification was found to have a positive impact on decision to purchase game items. However, the original model will be scrutinized as this research focuses on cosmetic game items instead of game items as a whole. This forms the groundwork for the first research hypothesis concerning emotional values:

H1. Character identification is positively linked to users’ intention to buy symbolic online game items.

Furthermore, Guo and Barnes (2009) identified three main factors that influence virtual item purchase in online games: character competency, perceived enjoyment and requirements of the quest system. Of these three, perceived enjoyment will be considered as a possible influence on cosmetic virtual item purchase behaviour, as the other two factors relate poorly to cosmetic items because of their inherent lack of functional attributes offered to the users. Prior research has indicated that hedonic factors, such as perceived enjoyment, have been important in explaining online shopping behaviour (Heijden, 2004) and online game item purchase intentions (Guo and Barnes, 2009, 2011)

To contrast, Park and Lee (2011) found that satisfaction of the online game does not affect intention to buy online game items. However, this model will be scrutinized as this research focuses on cosmetic game items instead of game items as a whole. The authors also examined both online game item purchase and usage intentions, instead of focusing on just purchase intentions. In addition, Park and Lee (2011) used enjoyment value as one part of

their integrated value factor for explaining online game item purchase intentions, which captures the same motivations as their satisfaction factor in the same study. This enjoyment value was found to influence online game item purchase and usage intentions by Park and Lee (2011). Hamari (2015) also found that enjoyment of the online game indirectly led to an increased online game item purchase intention: enjoyment of the game leads to increase continuous usage intention, which in turn leads to increase online game item purchase intention. It can therefore be argued that if a player views their participation in an online game as enjoyable, they can be more willing to invest money to buy cosmetic game items. Furthermore, continually using cosmetic items can be seen as increasing the enjoyment players derive from them. This argument forms the basis for the second research hypothesis concerning emotional values.

H2. Perceived enjoyment of using cosmetic game items is positively linked to users' intention to buy cosmetic game items.

4.2.2 Social values

As previously mentioned, since symbolic goods offer little in terms of functional features, the reasons behind their purchase could lean more on emotional or social values the user perceives (Kim, Gupta and Koh, 2011; Shang, Chen and Huang, 2012). Therefore, more emphasis will be put on examining these two phenomena. E.g. Mäntymäki and Salo (2013) examined the effects of perceived network size on purchasing behaviour in Habbo Hotel. They argued that network size can possibly affect purchasing decisions, especially with cosmetic online game items, since a bigger network size translates to greater opportunities for social interaction with other users or players and an increased value of the online game for the user (Mäntymäki and Salo, 2011, 2013). Having a larger social network inside the game gives users the chance to show their social status through cosmetic virtual item purchase better. Hence, the following hypothesis is postulated:

H3. A larger perceived network size is positively linked to users' intention to buy symbolic online game items.

Purchasing items can also be seen as a status symbol and a way to differentiate oneself from others (Mäntymäki and Salo, 2013, 2015). These same purchase motivations may hold for cosmetic virtual items as well. This idea is particularly relevant for online games, in which other forms of self-expression, such as speech, are extremely limited, if not non-existent (Mäntymäki and Salo, 2013). Therefore, visual aspects, such as clothing, accessories or character movement (e..g dancing) are emphasized when examining purchase intentions of online game items: Park and Lee (2011a) describe this value as the visual authority value derived from online game purchase. Previous research has also examined the visual aspects of virtual items as values driving purchase intention (Whang and Kim, 2005; Lehdonvirta, 2009; Turel, Serenko and Bontis, 2010).

For example, Mäntymäki and Salo (2015) found that purchasing virtual game items constituted as status symbol and a way for players to elevate their status and gain respect from others. The authors also found that purchasing virtual game items is a way for players to differentiate themselves between e.g. premium-membership players and regular players. This can be the case especially in free-to-play games, in which the game developer does not charge a fee for playing the game per se. Instead, they offer in-game items or other accessories to players (e.g. Hamari, 2015).

Such enhancement of one's abilities or looks in-game with real money becomes a social issue, as peer-acceptance of in-game purchases and subjective norms towards buying online game items with real money become relevant (Hamari, 2015; Lin and Sun, 2007; Alha *et al*., 2014). While Lin and Sun (2007) only explored the topic through compiling the most common arguments together, Hamari (2015) explored online game items as a whole, and not just purely cosmetic online game items. Alha *et al*. (2014), on the other hand, focused on the monetary aspects of online game item purchase. Therefore, examining these topics pertaining to social values in the context of cosmetic online game items is warranted. Perceiving an increase in one's status in an online game through cosmetic virtual item ownership can be seen as a motivator for purchasing cosmetic online game items, thus forming the second research hypothesis concerning social values.

H4. A perceived increase in status through cosmetic online game item ownership is positively linked to users' intention to buy cosmetic online game items.

4.2.3 Epistemic values

Novelty seeking has been proposed as one of the key concepts in frameworks regarding general consumer behaviour (Hirschman, 1980). In her research, Hirschman (1980) argues that consumers seek novelty through two different ways: either consumers seek new and discrepant information, or they alternate their choices between already known stimuli. This framework was expanded by Kahn (1995), who compiled the key motivating factors of variety-seeking consumer behaviour into three main areas: satiation / stimulation, external situation and future preference uncertainty. Furthermore, concerning consumers' satiation and stimulation, Sharma, Sivakumaran and Marshall (2010) found that optimum stimulation level (OSL) was crucial in explaining consumers' variety seeking behaviour. Although this research was conducted in a real-life shopping mall, it stands to reason that an online transaction platform can be used to achieve the same goals (To, Liao and Lin, 2007).

To illustrate, consumers with a high OSL require more stimulation (e.g. variety or pleasure seeking) than consumers with low OSL in order to satisfy their needs. The argument can be made that in online games, one possible way for consumers with a high OSL to satisfy their desired stimulation is to purchase cosmetic online game items in addition to simply playing the online game in question more. After all, a primary way for game developers to ensure the long-time attractiveness of their online game, and by extensions the items sold inside, is to regularly introduce new and meaningful content in addition to providing updates to seasonal events or in-game balance issues (Hamari and Lehdonvirta, 2010). Constantly new and updating gameplay content and online game items provide new avenues for players to satisfy their OSL. Therefore, the research hypothesis for epistemic values is postulated based on consumers' OSL level.

H5. Users' higher optimum stimulation level is positively linked to users' intention to buy cosmetic online game items.

4.2.4 Conditional values

Like many other industries and store formats, online game and their stores are subject to seasonal events, tournaments or other forms of time-constrained situations in which their

product or service offering is altered to match the occasion: for example, World of Warcraft has an in-game event calendar which has all the major real-life seasonal events and special events by the game developers listed (Hamari and Lehdonvirta, 2010). Previous research by Park, Iyer and Smith (1989) found that time pressure during a purchase situation was a factor in consumers' failure to make an intended purchase in the context of in-store grocery shopping. However, online game players are usually not pressured by time during the actual purchase situation, instead their perceptions about the transaction platform and technical skills required to use said platform or game create constraints to their use (Guo and Barnes, 2009; Domina, Lee and MacGillivray, 2012). Rather, they are pressured by the time limit of the offer itself (e.g. a Christmas event in-game only lasts a certain amount of days around the real-life event).

Although time constraints are not the only form of conditional values (Sheth, Newman and Gross, 1991), this context was picked for its relevance to cosmetic online game items. For example, Guo and Barnes' (2009) "requirements of the quest context" would have been an excellent conditional value for functional items, but they are unfortunately outside the scope of this research. This can however be examined as an avenue for further research if considering purely functional online game items, or online game items as a whole.

When presented with a time-limited offer, consumers may perceive it as scarcity, thus reacting positively to the notion of potential savings from acting on the time-limited offer (Aggarwal and Vaidyanathan, 2003). Although this research was conducted in the context of fast moving consumer goods and home electronics, this argument can hold for online game items as well, since it has been argued earlier that online game players prefer this kind of artificial in-game scarcity of online game items over abundance (Castronova, 2006; Lehdonvirta, Wilska and Johnson, 2009). Therefore, examining the effect a time limit on virtual item availability has on consumer purchasing behaviour is warranted, and it forms the basis of the research hypothesis concerning conditional values.

H6. Time-limited cosmetic online game item availability is positively linked to users' intention to buy cosmetic online game items.

4.2.5 Monetary values

The monetary properties associated with products and consumers' purchase intentions, and especially virtual goods, have been research previously (Sweeney and Soutar, 2001; Turel, Serenko and Bontis, 2010; Guo and Barnes, 2011). The authors approached this issue from a viewpoint of items inherently having a perceived "value for money", which holds for virtual goods as well. However, these researches do not go in-depth on the specific dimensions associated with monetary values, such as trading virtual items or using virtual items as a form of investment (Whang and Kim, 2005; Guo and Barnes, 2009). Of course, in some cases this might be infeasible, or outright impossible, e.g. Turel, Serenko and Bontis (2010) used ringtones as a research context, which cannot be traded, and are infeasible investment options.

Interestingly, players who put high monetary value on online game items inherently create friction between them and players who do not, i.e. players who are willing to pay real money for in-game items and player are not are subject to a different game experience, which may cause a significant decrease in enjoyment of the online game (Lin and Sun, 2007). This creates an interesting dynamic, in which enjoyment of the game leads to increase continuous usage intention, which in turn leads to increase online game item purchase intention (Hamari, 2015). However, purchasing an online game item may decrease game enjoyment for other players (Lin and Sun, 2007), thus decreasing the likelihood of the initial process extending to other players. Balancing this dynamic is surely important from a managerial perspective, especially in a free-to-play context where the game developer has to sell game items or other accessories to generate revenue and should provide interesting avenues for further research in the future.

One particular issue must also be addressed concerning online games: most games usually also provide a way for users to obtain paid online game items through other means (e.g. Lin and Sun, 2007). Usually this means either using in-game currency or performing quests or other activities through which the same item can be acquired. It therefore falls to the user to choose between these purchase and non-purchase channels, depending on what kind of perceived value the user puts on the online game item in question, and what kind of monetary and non-monetary costs acquiring the item would burden the users with (Guo and Barnes, 2011). Indeed, Alha *et al*. (2014) found so-called "pay-to-win" (players who spend

more money get an unfair advantage over players who do not) and “paywall” (game progression stops unless the player is willing to pay) strategies to be generally disliked in online games, and especially free-to-play games, as they overly emphasize the monetary costs of acquiring online game items. The authors go on to explain that if everything in the game can, theoretically, be obtained by non-monetary means (e.g. simply playing), then players are also more likely to purchase those items with monetary means.

Guo and Barnes (2011) found this perceived value to be highly relevant in explaining online game item purchase intention, although they examined it concerning online game items as a whole, instead of just cosmetic online game items. In order to increase this study’s nomological validity, only the perceived value for money derived from cosmetic online game item purchase will be examined, and thus it forms the research hypothesis concerning monetary values.

H7. A higher perceived value for money derived from cosmetic online game item purchase is positively linked to users’ intention to purchase cosmetic online game items.

Combining these constructs will form the proposed conceptual framework, visualized in Figure 1 as follows:

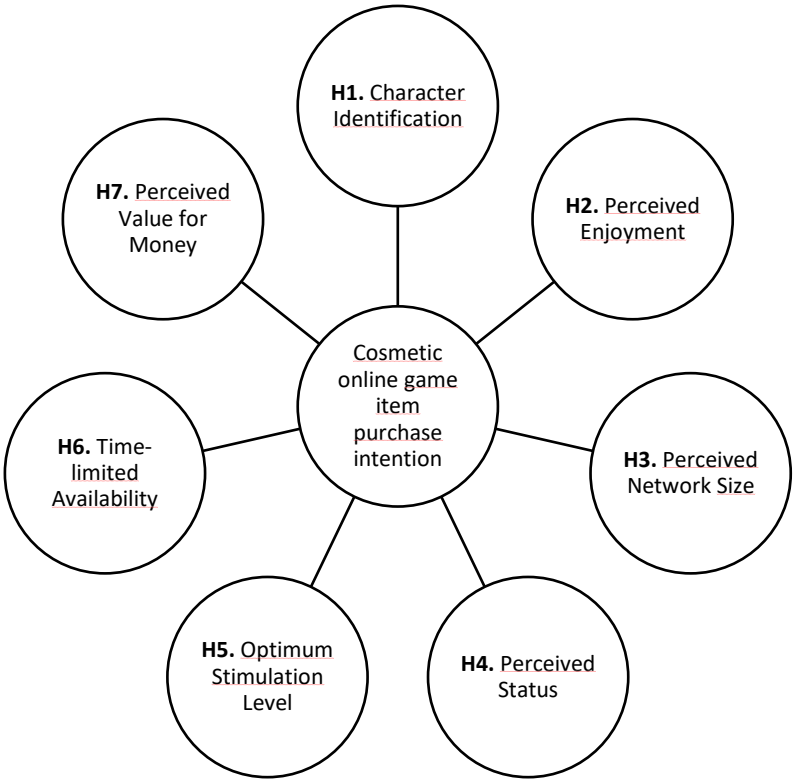

Figure 1: The proposed conceptual framework.

4.3 The new proposed framework

The purpose of this literature review was to provide sufficient background information and examine previous research on virtual item purchase and possible factors affecting it in order to understand users' value perceptions better when purchasing symbolic online game items. Phenomena relating to the virtual environment were examined as well, as they form the background of virtual goods purchase and usage. These findings provided the basis for the formation of the newly adjusted theory of consumption values framework to be used in this study. Having established a satisfactory foundation for the research, the methodology section will further examine the primary research conducted and its preliminary results, and furthermore analysis of said results.

5. METHODOLOGY

This section will focus on the primary research done for this paper, namely an online questionnaire, conducted to empirically test the proposed conceptual framework. The layout and details, different distribution channels, and preliminary results, i.e. demographics, of the questionnaire will all be examined in their own parts respectively.

5.1 Questionnaire outline

The main tool for conducting primary research for this paper was an online questionnaire. Given the monetary and time constraints of the research, as well as its quantitative nature, using a questionnaire was the most logical choice for data collection. Being able to distribute it through the internet and into online gaming forums made it substantially easier to reach the desired target group of this paper. The survey consisted of demographic questions (age, sex, education, etc.) along with questions chosen specifically to support the conceptual framework and relating to the literature inspected. The questionnaire comprised of a total of 32 questions, with 29 questions relating to the different framework constructs, as well as 3 general questions for demographics. All the questions were based on previous research, and all the proposed latent variables had 3-4 questions covering them. The questions were chosen based on their previous usage in scientific papers, and how well they fit the overall context, thus ensuring that the questionnaire would only have questions that have already been used and validated in previous studies.

Enjoyment value and perceived network size were measured using a 7-point semantic differential scale, whereas the rest of the framework constructs were measured with a 7-point Likert scale, with scores ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). For enjoyment value, respondents were asked to place themselves between two opposite words regarding their feelings toward symbolic game items, and with perceived network size respondents were asked about the perceptions of the amount of people they know who play the same game, 1 for “none” and 7 for “everyone”. It was decided to use the same 7-point scale for all framework constructs in order to limit possible data transformation, and subsequent chance for error, as much as possible. For example, perceived network size could have been measured with absolute values, but that would have required recoding the

data after collection, as well as additional screening of the data for invalid or mistyped answers, which would have introduced an additional layer of complexity to the research. The survey was built using Webropol survey software, and the final questionnaire can be found in Appendix 1.

5.2 Questionnaire context and distribution

World of Warcraft is one of the most played online games in the world, with the latest official subscription count from Blizzard put the number of players at approximately 5.5 million in 2015 (Statista, 2016). It was chosen as the context for this study due to its unique pay-to-play subscription model for players, and the large mass of active players globally, which was assumed to facilitate data collection.

In World of Warcraft, players can create one or more characters with which to play the game, explore the game world, complete quests and fight monsters. The created characters can represent one of many races (e.g. Human, Dwarf, Orc) from one of two factions (Alliance or Horde). The players can customize their characters' appearance, and can choose a class (e.g. Priest, Warrior), which then determines what role their character will play (Healer, Tank) (Livingston *et al.*, 2014). The large number of players, and the depth of content offered by World of Warcraft, has lead to many scientific articles being written using World of Warcraft as research context (e.g. Guo and Barnes, 2012; Billieux *et al.*, 2013; Livingston *et al.*, 2014). It is therefore justifiable to build on the previous research done by others in this same context.

The survey was initially posted on World of Warcraft's official forums, and on Icy Veins, the largest unofficial forum for Blizzard's games. Additionally, social media, namely the researcher's personal Facebook and closed fan groups for World of Warcraft, were used to reach more people. Lastly, the survey was distributed to Reddit, namely two subreddits focusing on MMORPG's and World of Warcraft respectively. These distribution channels were justified on the basis that people who are active not only in-game, but also on (un)official channels outside of the game are more engaged and thus more likely to have purchased cosmetic goods, have an opinion on them, and finally answer and share the

survey. Especially the closed Facebook groups were found to be the most effective way of collect data, as people actively shared the survey to their own guilds after seeing it in a closed Facebook group.

Although no incentive could be provided for the potential respondents due to a lack of resources, they were encouraged to partake in the survey nonetheless and share it to their in-game guild or other networks. The wide use of different distribution channels both in and outside social media eventually resulted in a final sample of 202 answers. After screening, all answers were found to be complete, thus requiring no deletion of invalid data, leaving the research with a data set of 202 valid answers.

5.3 Preliminary results

As the distribution channels varied largely in terms of size and visitor demographics, it is advisable to go through the descriptive statistics and look if there are any unexpected results in the data.

Over 73% of all respondents were male. This does not come as a surprise given the context, as the majority of MMORPG players are male (Statista, 2014). Furthermore, most of the people reached were young adults, aged between 19-24 or 25-30. However, the survey reached older respondents as well, with 31,7% of all respondents being 31 years old or older. This can be explained by the context, as World of Warcraft is old for an active video game, having been released in late 2004. Thus, older many players could have started playing World of Warcraft over a decade ago in their teenage years and kept playing up until now. The respondents were also quite highly educated, with 56,4% having already completed or were in the process of completing university studies at undergraduate, graduate or postgraduate levels. Although the survey was distributed to international forums and subreddits, Finnish channels were used as well, which might skew the results to overemphasize the beliefs and attitudes of Finnish World of Warcraft players over other nationalities. Still, what was more important in the context of this paper was to reach actively engaged players who have purchased cosmetic goods and have an opinion on them to ensure accurate data.

These results are summarized in Table 1, in which the descriptive statistics are presented as follows:

Gender	n	Percent
Male	148	73,3
Female	51	25,2
Other	3	1,5
Total	202	100,0

Education	n	Percent
High school	48	23,8
Vocational school	18	8,9
University undergraduate	55	27,2
University graduate	47	23,3
Postgraduate	12	5,9
Other	22	10,9
Total	202	100,0

Age	n	Percent
13-18	15	7,4
19-24	61	30,2
25-30	62	30,7
31-36	33	16,3
37-42	19	9,4
43-48	6	3,0
49+	6	3,0
Total	202	100,0

Table 1: Descriptive statistics

6. ANALYSIS

The analysis section of this paper aims to both explore and confirm new constructs and previously used constructs proposed in earlier research. This study proposes the addition of two new constructs to the framework previously used to examine this phenomenon, thus justifying the use of exploratory factor analysis for the entire model to discover the latent variables. Continuing from the exploratory section, structural equation modeling (SEM) with confirmatory factor analysis will be used to test the new model and its variations. SEM will also be used to compare model fit between the new proposed models with a baseline model adapted from Park and Lee (2011) with no added constructs.

6.1 Exploratory factor analysis

Although most of the constructs have been used in previous research studying this phenomenon, there has been discussion on what dimensions of the theory of consumption values (TCV) can be used to properly measure consumer behaviour in online games. As this paper introduces two additional constructs that have not been tested in this context, with items that might overlap with previously used ones, the use of EFA is justified. The actual analysis was done using IBM SPSS Statistics v.25 software, and the chosen method was Maximum Likelihood with Varimax rotation.

During the initial EFA run, all items loaded high with the exception of one item (TIME2_rev) with an initial loading of ,335. After running reliability analysis for “time pressure”, it became apparent that removing this item would significantly increase Cronbach’s Alpha for the construct, thus improving the reliability that the remaining items measure the latent variable. Upon further examination, it was deemed that the reverse-coding of this construct resulted in lower quality data than for other items that were all normally coded. This can be a common issue with reverse-coded items, as having them mixed with normally coded items may result in respondents giving inaccurate answers (Hair *et al.*, 2010). After removing this item, the EFA was rerun, resulting in all latent factors having a Cronbach’s alpha > 0,60. The rotated component matrix can be found in the following Table 2, showing that the eight formed factors explain 78,76% of the total variance.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8,168	29,173	29,173	8,168	29,173	29,173	3,461	12,360	12,360
2	3,145	11,231	40,404	3,145	11,231	40,404	3,322	11,863	24,222
3	2,884	10,301	50,704	2,884	10,301	50,704	3,226	11,523	35,745
4	2,097	7,491	58,195	2,097	7,491	58,195	2,858	10,206	45,951
5	1,830	6,537	64,732	1,830	6,537	64,732	2,776	9,916	55,867
6	1,450	5,180	69,913	1,450	5,180	69,913	2,676	9,557	65,424
7	1,392	4,973	74,885	1,392	4,973	74,885	2,170	7,751	73,175
8	1,084	3,871	78,757	1,084	3,871	78,757	1,563	5,582	78,757

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaizer Normalization. Rotation converged in 7 iterations.

Table 2. Rotated component matrix in EFA.

The EFA resulted in eight factors that accurately represent the eight factors proposed in this paper. Keiser-Meyer-Olkin measure for sampling adequacy (,832) and Bartlett's Test of Sphericity (sig. ,000) indicate that the EFA accurately presents the formed eight factors. A more detailed view on the formed factors can be found below in Table 3, which includes the exact items, their loadings, communalities, and Cronbach's Alphas for all latent variables found in EFA.

Supported by the findings of the EFA, it is now proposed that the original TCV model used by Park and Lee (2011) can be adjusted with new factors to improve the model. To confirm this proposal, SEM will be used to carry out confirmatory factor analysis (CFA).

Construct	Item	Factor loading	Communality	Cronbach's Alpha	Based on
Enjoyment				,945	(Guo and Barnes, 2011)
	To me, using cosmetic game items is... (Enjoyable – disgusting)	,863	,852		
	To me, using cosmetic game items is... (Exciting – dull)	,860	,882		
	To me, using cosmetic game items is... (Pleasant – unpleasant)	,860	,873		
	To me, using cosmetic game items is... (Interesting – boring)	,827	,868		
Purchase intention				,935	(Guo and Barnes, 2011)
	My willingness to buy cosmetic game items in World of Warcraft is high	,876	,906		
	The likelihood that I will purchase cosmetic game items in World of Warcraft in the short term is high	,855	,889		
	I intend to purchase cosmetic to purchase cosmetic game items in World of Warcraft in the future	,851	,861		
Visual authority				,927	(Turel, Serenko and Bontis, 2010)
	Using cosmetic game items in World of Warcraft gives me social approval	,889	,872		
	The use of cosmetic game items in World of Warcraft improves the way I am perceived	,879	,862		
	With the use of cosmetic game items in World of Warcraft I can make a better impression on others	,850	,824		
	The use of cosmetic game items in World of Warcraft makes me feel more acceptable in-game.	,778	,788		
Character identification				,907	(Cohen, 2001) (Park and Lee, 2011)
	I consider the game character in World of Warcraft as my other self	,900	,849		
	I view a game character as my equivalent-being	,890	,822		
	When I play World of Warcraft, I almost feel like the game character	,852	,805		
	When I play World of Warcraft, the goals of the character become my goals	,789	,723		

Table 3. Item loadings, communalities and Cronbach's Alphas of the EFA

Construct	Item	Factor loading	Communality	Cronbach's Alpha	Based on
Optimum stimulation level				,853	(Sharma, Sivakumaran and Marshall, 2010)
	I am continually seeking new ideas and experiences	,853	,753		
	When things get boring, I like to try something different	,831	,730		
	I like to experience novelty and change in daily routine	,830	,728		
	I like continually changing activities	,783	,636		
Monetary value				,844	(Lu and Hsiao, 2010)
	Cosmetic game items in World of Warcraft are economical	,798	,701		
	Cosmetic game items in World of Warcraft are reasonably priced	,792	,743		
	The quality of cosmetic game items in World of Warcraft is good relative to the prices	,768	,753		
	Cosmetic game items in World of Warcraft offer value for money	,657	,662		
Network size				,786	(Lin and Bhattacherjee, 2008)
	How many people in your environment play World of Warcraft?	,892	,823		
	How many of your friends play World of Warcraft?	,814	,714		
	How many of your peers (co-workes, fellow students etc.) play World of Warcraft?	,764	,657		
Time pressure				,644	(Beatty and Ferrell, 1998)
	I have limited time available for me to purchase a particular cosmetic game item in World of Warcraft	,840	,747		
	The amount of time pressure I feel when purchasing a particular cosmetic game item in World of Warcraft could be characterized as:	,820	,729		

Table 3. Item loadings, communalities and Cronbach's Alphas of the EFA

6.2 Confirmatory factor analysis

This paper proposes three possible frameworks for measuring consumers' intention to purchase cosmetic goods in online games with real money, combining the original factors concerning cosmetic goods used by Park and Lee (2011) with new proposed factors relating to time pressure and optimum stimulation level. To clarify the frameworks, the proposed factors are called perceived network size (network), time pressure (time), enjoyment value (enjoyment), visual authority value (visual), monetary value (money), character identification, optimum stimulation level (OSL), and intention to purchase (purchase). CFA will be used to test if these factors form a reliable and valid model for the theory. The actual analysis was done using IBM Amos v.25 software.

The first framework consists of all eight factors (Figure 3: Model 1). The second theory consists of seven factors, measuring the framework if only OSL were added to the original (Figure 4: Model 2). Conversely, the third framework consists of seven factors but with only time added to the mix instead of OSL (Figure 5: Model 3). These frameworks will be compared to the baseline model adapted from Park and Lee (2011) to test model fit between the frameworks (Figure 2: Model 0).

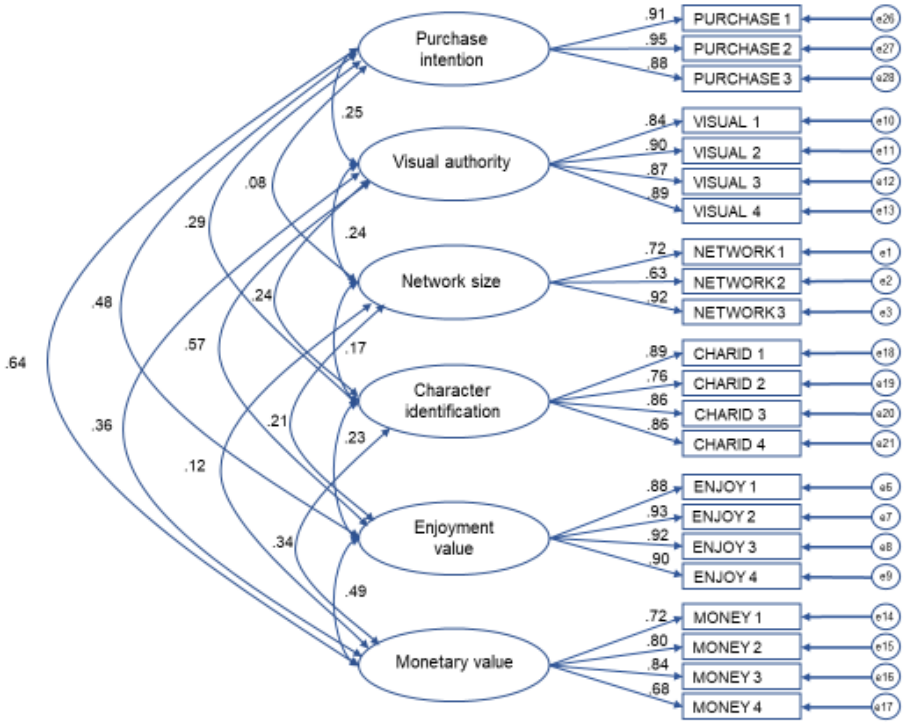

Figure 2: Model 0

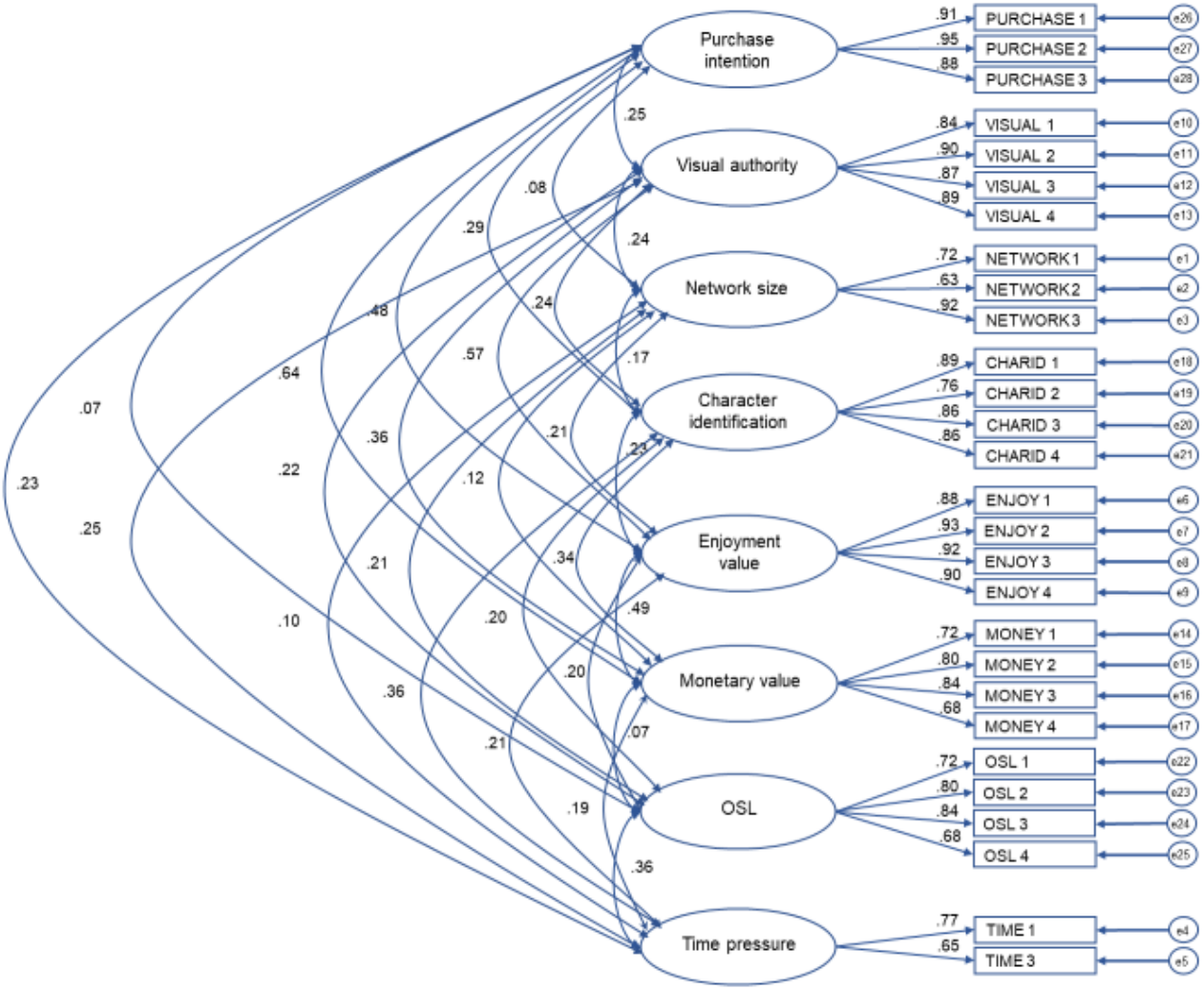

Figure 3: Model 1

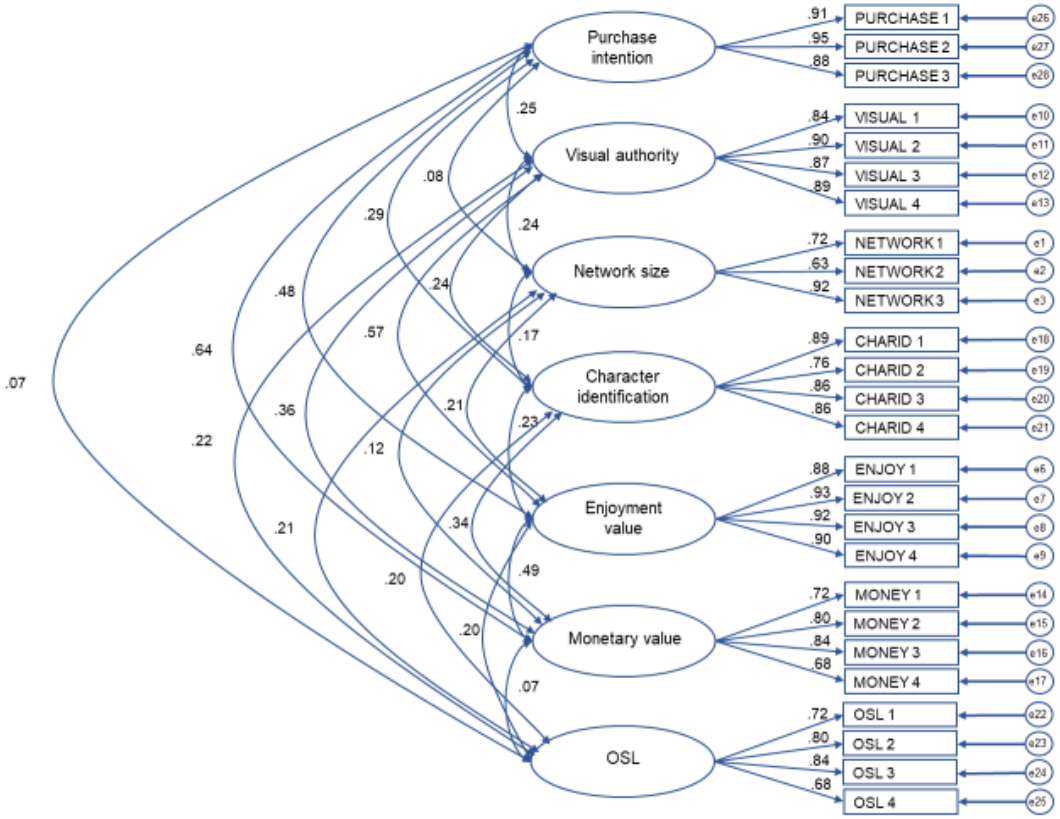

Figure 4: Model 2

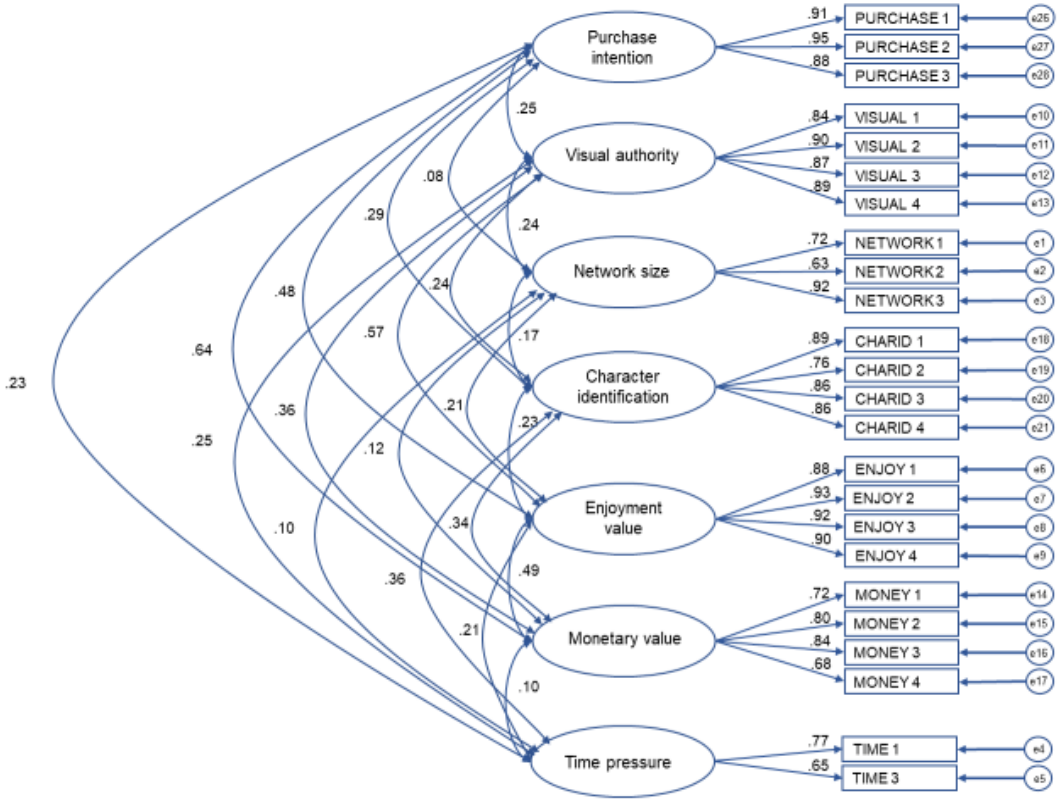

Figure 5: Model 3

When comparing model fits, it seems that including any combination of the proposed new factors decreases model fit slightly. Although all the models indicate a good model fit, it can be argued that increasing the number of variables leads to a lower model fit in this instance. The only possible issue with these models is with the NFI of models 1, 2, and 3, which are below the recommended ,90 threshold. However, these models score above good fit limits on all other metrics, indicating that with some further refining of the factors, a model fit exceeding that of Model 0 could be achieved. The model fit comparison table can be found below in Table 4.

Model fit comparison

	Good fit limit	Model 0	Model 1	Model 2	Model 3
χ2		322,312	540,271	479,863	379,750
df		194	322	278	231
χ2/df	< 5	1,661	1,678	1,726	1,644
p (χ2)	> 0,05	,000	,000	,000	,000
CFI	> 0,90	,962	,944	,947	,957
NFI	> 0,90	,910	,873	,884	,898
TLI (NNFI)	> 0,90	,955	,934	,938	,949
RMSEA	< 0,10	,057	,058	,060	,057

Table 4: Model fit comparison

Construct validity was evaluated through convergent and discriminant validities. Model 1 was chosen to be evaluated first, as it included all possible factors, thus allowing to examine whether some of the factors have validity issues. The goodness-of-fit values for model 1 are: χ^2 = 540,271; df = 322; p < ,000; χ^2/df = 1,678; CFI = ,944; NFI = 873; TLI = ,934; RMSEA = ,058 (LO = ,49; HI = ,67; PCLOSE = ,065). Table 5 lists all standardized factor loadings, as well as validity assessments. It can be seen that some items had a loading below ,70, which indicates that some items could still be removed to improve validity. All composite reliabilities exceeded the ,70 threshold, and all AVE values exceeded the ,50 threshold. However, the AVE for time pressure is barely above the recommended ,50 threshold, indicating that there might be issues with the factor and its observed variables not adequately correlating with each other, i.e. not explaining their latent factor. Time pressure was measured by only two items in the survey and increasing the number of observed variables in future studies might solve these validity issues with the latent factor. However, none of the between-construct correlations exceed the square roots of AVE (in the diagonal

in Table 6), indicating no risk for multicollinearity. As previously mentioned, Cronbach's Alpha is at acceptable levels for all factors, exceeding ,60.

Construct	Item	Loading	α	pc	pv
Enjoyment			,945	,97	,82
	To me, using cosmetic game items is... (Enjoyable – disgusting)	,88			
	To me, using cosmetic game items is... (Exciting – dull)	,93			
	To me, using cosmetic game items is... (Pleasant – unpleasant)	,92			
	To me, using cosmetic game items is... (Interesting – boring)	,90			
Purchase intention			,935	,97	,83
	My willingness to buy cosmetic game items in World of Warcraft is high	,95			
	The likelihood that I will purchase cosmetic game items in World of Warcraft in the short term is high	,88			
	I intend to purchase cosmetic to purchase cosmetic game items in World of Warcraft in the future	,91			
Visual authority			,927	,96	,76
	Using cosmetic game items in World of Warcraft gives me social approval	,84			
	The use of cosmetic game items in World of Warcraft improves the way I am perceived	,90			
	With the use of cosmetic game items in World of Warcraft I can make a better impression on others	,87			
	The use of cosmetic game items in World of Warcraft makes me feel more acceptable in-game.	,89			
Character identification			,907	,95	,72
	I consider the game character in World of Warcraft as my other self	,89			
	I view a game character as my equivalent-being	,76			
	When I play World of Warcraft, I almost feel like the game character	,86			
	When I play World of Warcraft, the goals of the character become my goals	,86			
Optimum stimulation level			,853	,91	,60
	I am continually seeking new ideas and experiences	,78			
	When things get boring, I like to try something different	,83			
	I like to experience novelty and change in daily routine	,80			
	I like continually changing activities	,69			

Table 5: Construct measure and validity assessment

Construct	Item	Loading	α	pc	pv
Monetary value			,844	,91	,58
	The quality of cosmetic game items in World of Warcraft is good relative to the prices	,71			
	Cosmetic game items in World of Warcraft are reasonably priced	,80			
	Cosmetic game items in World of Warcraft are economical	,84			
	Cosmetic game items in World of Warcraft offer value for money	,68			
Network size			,786	,88	,59
	How many people in your environment play World of Warcraft?	,73			
	How many of your friends play World of Warcraft?	,64			
	How many of your peers (co-workes, fellow students etc.) play World of Warcraft?	,91			
Time pressure			,644	,77	,50
	I have limited time available for me to purchase a particular cosmetic game item in World of Warcraft	,66			
	The amount of time pressure I feel when purchasing a particular cosmetic game item in World of Warcraft could be characterized as:	,76			

Table 5: Construct measure and validity assessment

Construct	***Mean***	***SD***	***pc***	***pv***	*OSL*	*Network*	*Enjoy*	*Time*	*Visual*	*Money*	*Char_ID*	*Purchase*
OSL	4,873	1,358	,914	,602	**,776**							
Network	2,538	1,184	,877	,588	,204**	**,767**						
Enjoy	4,967	1,546	,972	,819	,175*	,204**	**,905**					
Time	2,012	1,240	,772	,501	,148*	,095	,166*	**,708**				
Visual	3,050	1,724	,960	,764	,196**	,238**	,547**	,212**	**,874**			
Money	3,087	1,478	,905	,580	,057	,155*	,457**	,115	,338**	**,762**		
Char_ID	3,300	1,844	,948	,716	,194**	,168*	,214**	,266**	,233**	,316**	**,846**	
Purchase	3,254	2,010	,966	,833	,062	,092	,463**	,192**	,251**	,583**	,285**	**,912**

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 6: Means, standard deviations, correlations and square roots of AVE of Model 1.

Based on these findings, it is safe to continue with all seven hypotheses of the original proposed framework, since convergent and discriminant validity, as well as composite reliability of the model, have all been established.

6.3 Regression analysis

After the measurement model had been established with CFA, linear regression analysis was carried out to test the proposed hypotheses between independent and dependent variables. Regression was chosen in addition to basic correlation as the method, as it allows to test for multiple hypotheses at once (Hair *et al.*, 2010). The analysis was done using IBM SPSS Statistics v.25 software. The results can be found summarized below in Table 7.

Variable	Coefficient	t	Sig.	Tolerance	VIF
Enjoyment	,277	3,926	,000**	,609	1,641
Visual authority	-,082	-1,206	,229	,656	1,526
Monetary value	,453	7,008	,000**	,729	1,371
Character identification	,086	1,407	,161	,816	1,225
Network size	-,035	-,603	,547	,903	1,107
Time pressure	,094	1,620	,107	,898	1,113
OSL	-,020	-,336	,737	,903	1,107

F-Statistic = 19,236
Significance = ,000*
R^2 = ,410
Adjusted R^2 = ,388

**. Significant at the ,001 level. 2-tailed test

Table 7. Regression statistics

As can be seen from the results, only two statistically significant relationships exist between the independent variables and dependent variable: enjoyment value has a mild positive effect on intention to purchase, and monetary value has a moderate positive effect on intention to purchase. Although the model itself is statistically highly significant ($p < ,000$), the relationships between other independent variables and the dependent variable are not. The Variation Inflation Factor (VIF) is at acceptable levels (below 2) for all variables, indicating no risk of multicollinearity. According to the adjusted R^2, this model explains roughly 39% of total variance in consumers' intention to purchase cosmetic game items.

These results provided to be interesting, as simple correlation analysis (Table 6) indicated that all factors excluding network size and OSL correlated with purchase intention on a statistically significant level. Still, while examining the whole model, only enjoyment and monetary values influence purchase intentions on a statistically significant level. One

disadvantage of multiple regression analysis is that it might overemphasize one or a few significant correlations once they have been found (Hair *et al.*, 2010), thus portraying smaller, put potentially still significant, relationships as statistically insignificant. To control for this possibility, an additional regression analysis was run without enjoyment value and monetary value, which can be found in Table 8.

Variable	Coefficient	t	Sig.	Tolerance	VIF
Visual authority	,183	2,560	,011*	,873	1,146
Character identification	,221	3,090	,002*	,873	1,146
Network size	,008	,117	,907	,909	1,100
Time pressure	,098	1,399	,163	,900	1,111
OSL	-,033	-,474	,636	,912	1,097

F-Statistic = 5,666
Significance = ,000**
R^2 = ,126
Adjusted R^2 = ,104

**. Significant at the ,001 level. 2-tailed test
*. Significant at the ,05 level. 2-tailed test

Table 8. Regression statistics without enjoyment and monetary values

Removing the two dominant factors from the analysis revealed an additional two factors that were positively correlated with purchase intention: visual authority and character identification both had a mild positive effect on purchase intention on a statistically significant level. The second model is also statistically highly significant ($p < ,000$), although its explanatory power is considerably lower (roughly 10%), as two of the main factors were removed. Still, this additional analysis provided insight on how the factors truly affect intention to purchase.

These findings were taken into account when the designing of the structural model was started. The author proposes that the newly found significant factors, visual authority and character identification, are actually a subset of enjoyment value, and thus indirectly affect intention to purchase. This new proposed model was tested in the structural model to validate the claim.

6.4 Building the structural model

The complete structural model was built with the aforementioned proposal in mind, moving character identification and visual authority as predictors of enjoyment value rather than purchase intention directly. After the necessary changes were made to the model, the additional analysis was run using IBM AMOS v.25 software, and its results can be found in Table 9.

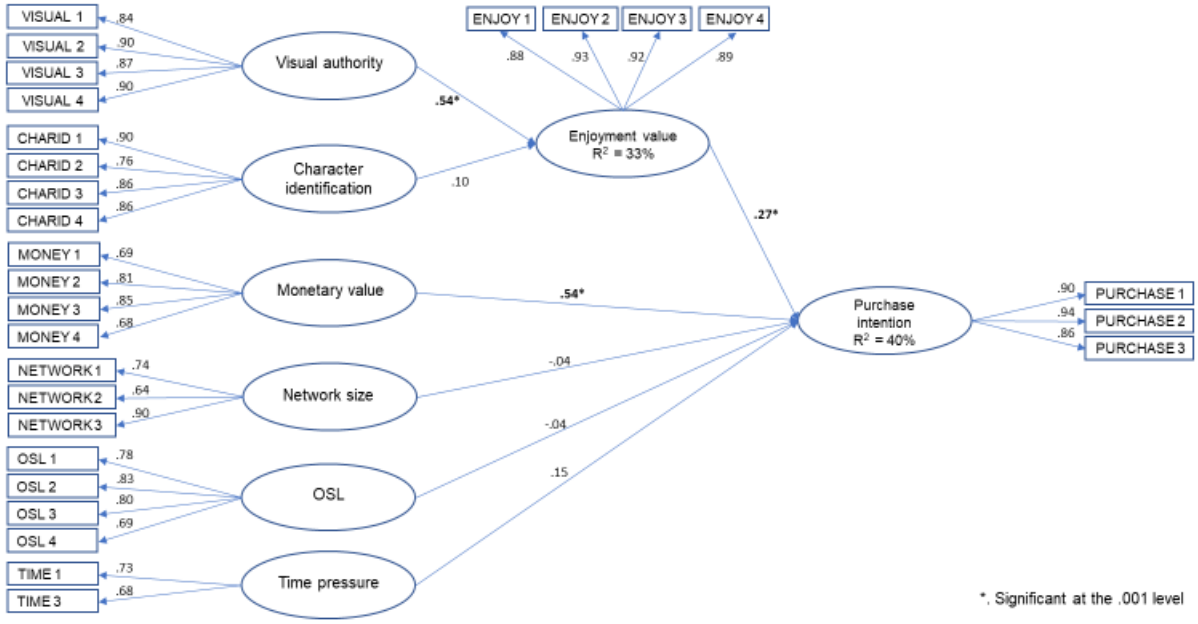

Table 9. The structural model

The complete structural model is significant at the ,000-level, and indicates that character identification influences enjoyment value on a mild level, and visual authority on a moderate level. However, only visual authority influences enjoyment on a statistically significant ($p <$,000) level. The R^2 for enjoyment value in this model is roughly 33%, and it has a mild positive effect on purchase intention on a statistically significant ($p <$,000) level, thus proving that visual authority influences purchase intention indirectly via increasing the enjoyment of using cosmetic game items. The other factors remained largely unchanged in this model: only monetary value influenced purchase intention on a statistically significant ($p <$,000) level, although its coefficient rose slightly, indicating a slightly larger effect. The R^2 for purchase intention also rose slightly to roughly 40%, indicating that this model has a slightly better explanatory power compared to the initial regression analysis model depicted in Table 7. To summarize, monetary and enjoyment values influence purchase intention on a

statistically significant level (p < ,000), and visual authority influenced enjoyment value on a statistically significant level (p < ,000). A table of the hypotheses and their results can be found below as a summary in Table 8. Out of the initial seven research hypotheses, three were accepted (H2, H4, H7) based on the results, and four (H1, H3, H5, H6) had to be rejected.

#	Hypothesis	Supported
H1	Character identification is positively linked to users' intention to buy symbolic online game items.	No
H2	Perceived enjoyment of using cosmetic game items is positively linked to users' intention to buy cosmetic game items.	**Yes**
H3	A larger perceived network size is positively linked to users' intention to buy symbolic online game items.	No
H4	A perceived increase in status through cosmetic online game item ownership is positively linked to users' intention to buy cosmetic online game items.	**Yes**
H5	Users' higher optimum stimulation level is positively linked to users' intention to buy cosmetic online game items.	No
H6	Time-limited cosmetic online game item availability is positively linked to users' intention to buy cosmetic online game items.	No
H7	A higher perceived value for money derived from cosmetic online game item purchase is positively linked to users' intention to purchase cosmetic online game items.	**Yes**

Table 8. Summary of research hypotheses and results

7. CONCLUSIONS

The aim of this paper was to examine if the theory of consumption values can be used to examine cosmetic online game item purchase intention in World of Warcraft. The answer to this question, and the results of this study, will be thoroughly discussed from both theoretical and managerial viewpoints, and directions for future research will be presented. In addition, limitations of this study will be discussed.

7.1 Discussion

The primary findings of this paper indicate that an increase in visual authority (i.e. status) will increase the enjoyment players derive from using cosmetic game items, which in turn leads to an increased intention to purchase said items. Furthermore, a higher perceived value for money leads to an increased intention to purchase said items.

From a theoretical viewpoint, perhaps the most relevant findings relate to the theory of consumption values as a framework for examining consumer behaviour. This paper contributed by examining all elements of TCV in the context of online games: previous studies in the same field by e.g. Park and Lee (2011) have excluded some parts of the framework, namely epistemic and conditional values, without fully examining whether they should be included or not. Therefore, this paper provides some concrete evidence on how the previously excluded constructs behave, thus offering some validation to the implicit statement made in earlier studies that epistemic or conditional values may not necessarily be used to measure purchasing intention in this context.

The findings of previous studies using TCV to measure purchasing intention in online games or communities (Kim, Gupta and Koh, 2011; Park and Lee, 2011; Shang, Chen and Huang, 2012) found that social and emotional values were the primary drivers influencing purchasing intention. In that sense, the results from this paper are aligned with previously done research, showing that social values (visual authority) and emotional values (enjoyment of using cosmetic game items) predict purchasing intention of cosmetic game items. However, the final results displayed in the structural model in this paper indicate that social values actually precede emotional values. This kind of indirect relationship with social

values and purchasing intention is a result that has not been found in previous studies. In fact, Kim, Gupta and Koh (2011) found the opposite effect in their research, i.e. that emotional values have a positive effect on social values in addition to intention to purchase items.

Furthermore, perceived network size was found to not affect purchasing intention in this study. This result differs from previous research done by e.g. Mäntymäki and Salo (2013), who found a strong influence between network size and purchasing behaviour. This difference can be partly explained by the difference in the research context, as the authors used Habbo Hotel, an unstructured, free-form virtual world, as context instead of a structured, objective-oriented online game such as World of Warcraft used in this paper. It could be argued that the effect of perceived network size manifests itself more when players aim to advance through in-game content through co-operation with other players (Billieux *et al.*, 2013), and purchasing cosmetic items remains purely a status symbol (i.e. visual authority).

This suggests that the relationship between social values, emotional values and purchasing intention of cosmetic game items should be examined further to determine whether the results of this paper indicate a need for a new framework for examining cosmetic game item purchase, or if they are simply products of the specific context (i.e. World of Warcraft) used in this study. It also highlights the difficulties of constructing a general framework to be used to measure online games, as each context will most likely yield different results. Needless to say, this finding has still provided some new insight on how purchasing intention can be measured using the theory of consumption values.

The inclusion of monetary value into the TCV previously has yielded mixed results, with some studies examining online games and communities finding that it does not affect purchasing intention (Kim, Gupta and Koh, 2011), while others finding that it does (Park and Lee, 2011; Guo and Barnes, 2012). The findings of this paper support the latter, providing evidence that monetary value can indeed be used in predicting purchasing intention. What is interesting in this case is the size of the effect: the findings in this paper imply that perceived value for money has a moderate to high positive correlation with purchase intention, which is higher than in previous studies conducted using World of Warcraft as context (Guo and Barnes, 2012). This can be partly explained by the fact that Guo and

Barnes (2012) examined online game items as a whole instead of just cosmetic game items, which allows the inclusion of functional values into the framework. As this cannot be done with cosmetic game items, the effect of monetary values on purchase intention might be overemphasized in this paper. In general, due to World of Warcraft having a monthly subscription fee, players might be more price sensitive when considering items that do not directly enhance one's abilities in-game, thus emphasizing the monetary aspects related to game item purchase in a pay-to-play environment.

As previously mentioned, conditional and epistemic values were found to not influence purchasing intentions of cosmetic game items. These values were represented by time pressure and players' optimum stimulation level (OSL) respectively, which were chosen by their apparent fit to the context, i.e. online games, and their previous use in research (Beatty and Ferrell, 1998; Sharma, Sivakumaran and Marshall, 2010) that showed them to be adequate measurement constructs. The fact that these constructs had no effect on purchase intention is therefore an interesting finding, as it suggests that they may not be entirely accurate predictors of purchasing behaviour, or that the context might warrant the use of some other form of conditional and epistemic values to measure purchasing intention of cosmetic game items.

Considering time pressure, a possible explanation for its lack of effect on purchase intention might be in the non-purchase acquisition models present in the game: most of the cosmetic items can be acquired by other means as well, e.g. completing certain tasks in-game. Therefore, players might not be enticed to purchase said items even in the face of time pressure if they still perceive to have the time to acquire them through various gameplay activities. Also, as previously mentioned, a calendar for specific events exists in-game in World of Warcraft, allowing players to plan for potential special deals beforehand, thus lowering the perceived time pressure on actually acquiring the cosmetic items they desire during that event.

Players with a higher OSL tend to seek more stimuli to satisfy their needs in-game. However, as was found in this paper, purchasing cosmetic game items does not seem to be one of the ways players specifically use to achieve their OSL. This result is not entirely surprising, as in addition to an in-game store, online games usually offer a plethora of features and activities with which players can satisfy their needs. Indeed, simply playing the game in

question more might be enough to achieve one's OSL. Although out of the scope of this paper, it is important to remind that continuous playing of an online game is a strong predictor of purchase intention (Mäntymäki and Salo, 2011). Therefore, it could be hypothesized that players with a higher OSL are more likely to continuously play an online game, thus indirectly increasing their intention to purchase game items. Although this connection is entirely speculation at this point, this hypothesis would provide an interesting basis for future research in this topic.

Nevertheless, these results provide rudimentary evidence that conditional and epistemic values do not affect purchasing behaviour of cosmetic online game items, a finding that is in line with previous research that found social and emotional values to be the most important predictors of purchase intention.

World of Warcraft is one of the biggest and oldest MMORPG's still maintained and updated by its creators today. As such, it is a valuable context for research as both longitudinal and lateral data exists en masse. Furthermore, research has been conducted in World of Warcraft for years, providing a suitable basis for future research in different kinds of fields (Ducheneaut *et al.*, 2007; Guo and Barnes, 2012; Billieux *et al.*, 2013). Therefore, the findings of this paper offer additional insight into a context that is both widely researched, and also widely used as benchmark for other similar contexts (i.e. pay-to-play MMORPGs), making them a relevant basis for further exploration into the topic of cosmetic game item purchase. Furthermore, the findings of this paper are in line with previous research done in World of Warcraft on a similar topic (in this case Guo and Barnes, 2012), indicating that the research methodology and approach were adequately designed to fit the context, i.e. the results of this study should not constitute as an outlier in the more general scope of research done in World of Warcraft.

To summarize, this paper has contributed to present scientific knowledge on both the theory of consumption values and cosmetic game item purchase by examining them in the context of World of Warcraft, and subsequently developing a new structural framework through which said purchasing can be examined more accurately. Purchasing intention of cosmetic game items is influenced by the perceived value for money received from purchasing cosmetic game items, and perceived enjoyment of using cosmetic game items, which in turn is influenced by visual authority derived from using cosmetic game items. In terms of TCV

constructs, purchasing intention is influenced by social, emotional and monetary values respectively.

7.2 Managerial implications

When considering the revenue logic of online multiplayer games, the findings of this paper offer some insight on how cosmetic items can be used to ensure additional (or even primary) income for online games, in addition to a framework that can be used to examine players' purchasing behaviour. Although World of Warcraft was used as research context in this paper, it stands to reason that the results can be extended to other multiplayer games as well that operate on a pay-to-play basis, i.e. a monthly subscription, as monetary requirements play a crucial role in the results. Furthermore, it is crucial to differentiate between cosmetic and functional items when talking about business impact, as the difference between players' motivations to purchase these different items cannot be overstated. The results and implications depicted here are strictly applicable to cosmetic items, unless otherwise argued.

According to the results, the purchase and subsequent use of cosmetic game items is mainly done for visual purposes by the players. In terms of product offering, the items should be designed in a way that enables them to act as status symbols in-game. In World of Warcraft specifically, this might prove problematic, as a lot of emphasis is also put on items received from completing especially difficult tasks in-game, which can also reward players with cosmetic items, or functional items generally thought to have aesthetically pleasing looks. Therefore, it is suggested that the cosmetic items received from difficult tasks be different from the ones available for purchase: having a monetary shortcut to these cosmetic items usually reserved for the highest achievers in-game might cause discontent within the community, as players might view purchasing these items as "cheating", and the players who bought them as not truly earning them. If this were the case, it is possible that the "magic circle" in the game would be broken, thus degrading the immersion and enjoyment players who do not purchase these items get from playing the game (Lin and Sun, 2007; Hamari, 2015).

Providing an alternate way of acquiring in-game items, cosmetic or functional, might also reduce the motivation to advance through said content, i.e. play the game, which in the long term would prove detrimental to any online game's success, as continuous playing is strongly related to purchasing intention (Mäntymäki and Salo, 2011). Thus, some cosmetic items could be designed as new additions that are available for purchase only, keeping them unique enough to act as status symbols for players, but still not interfere with the current loot system of the in-game content, which offers rewards for players who manage to advance through content and beat difficult tasks in-game. This way, the balance of the current loot system would be minimally disturbed, and only some cosmetic items would be restricted behind paywalls (i.e. only purchasable with real money), thus not interfering with players' attempt at advancing in the game.

Acting as a status symbol might not be enough, however, as especially in case of a pay-to-play game, players might be very price sensitive to items offered for real money, as they are already paying for simply getting to play the game itself. It is therefore important to increase the perceived value for money players feel when they purchase cosmetic game items. At this point, additional incentives could be provided to the players to purchase these items. Uniqueness alone might not be enough to entice players to purchase cosmetic items in a structured online game, in which progression through game content is a crucial reason for playing the game in the first place.

In addition to common sales and special deals, specific events could be leveraged when offering cosmetic goods: for example, a charity event implemented in-game might have a special cosmetic good designed to be available only during a certain period of time. This way, players could donate to charity while at the same time acquiring unique cosmetic items from the in-game store. Other such events, like player birthdays and celebrations, can be leveraged the same way by offering a cosmetic item only related to a specific event while at the same time offering some other, perhaps non-tangible, benefits from purchasing cosmetic items. Recently (late 2018), after the release of the newest expansion Battle for Azeroth, Blizzard has been incorporating unique cosmetic goods into their monthly subscription packs. In essence, by purchasing a 6-month subscription, players can receive a cosmetic item for free, as later on this cosmetic can only be purchased through the in-game store. This is a prime example on how to provide additional value for money for players with

cosmetic online game items, although the repurchase period in this case will be quite long assuming new items are introduced for a new 6-month period.

Additionally, Blizzard has yet to leverage their e-sport tournaments in World of Warcraft as a channel to provide virtual cosmetic items for participants and spectators. So far, only physical gear is offered at Blizzard's store, such as t-shirts, caps, and gaming equipment. Offering tournament specific, or even team specific, cosmetic items for spectators during an event would be an adequate new way of engaging players with the game, and provide them with a new way of displaying something unique to others. Blizzard has already done this with their BlizzCon events, with spectators who purchased a virtual ticket receiving event-specific cosmetic items in one of Blizzard's games. It is therefore not out of the question for Blizzard to extend this practice into their other events as well.

Assigning such additional perks, or designing new cosmetic goods for new events, should not be an overly costly endeavor for game developers, as creating new cosmetic game items is virtually free (excluding developers' time and salaries). The important part, as mentioned before, is to ensure that the new cosmetic items are unique enough and offer some form of additional value to the players. This also means that new items cannot be released too frequently, as creating a scarcity, artificial or otherwise, of cosmetic goods can make the items in question more enticing to players (Hamari and Lehdonvirta, 2010). In terms of the online game in question, this means that only the most important events should have specialized items created to ensure their uniqueness, and thus uphold a scarcity of cosmetic game items available for purchase at any given time.

7.3 Limitations and directions for future research

As in any scientific paper, this study is subject to some limitations that have to be taken into account when examining and applying the results. At the same time, these limitations can be viewed as potential future avenues for additional research in this field, and both of these aspects are examined below.

As was previously alluded to, this paper has two main limitations in terms of context: the game in question (World of Warcraft), and cosmetic game items instead of all game items as a whole. World of Warcraft represents a structured, pay-to-play online game with clear mechanics for advancement and progression in-game. As such, the results of this paper should only be applied to other games like World of Warcraft. More unstructured virtual worlds (e.g. Second Life) are quite different in terms of players' motivations for playing and purchasing game items and extending the results of this paper to these kinds of games may not be especially fruitful. It stands to reason then that a comparative study between structured and unstructured online games might provide some crucial insight on how purchasing behaviour differs between online game types, or if there are some differences despite a different game type. Hamari (2015) has conducted such comparative research, but all of the games examined were free-to-play, suggesting that there is a current lack of knowledge between different pay-to-play online games if any differences or similarities between online games can be found.

Additionally, the results of this paper were gathered from a pay-to-play game, in which the players are already paying for the game by for example monthly subscription. As was implied in the results, this puts a strong emphasis on monetary values associated with cosmetic game item purchase. It stands to reason then, that these results cannot be accurately generalized to free-to-play games, which do not put the same kind of monetary pressure on the players by default. Therefore, the purchase of cosmetic game items in free-to-play games might stem from different motivations compared to purchases made in pay-to-play online games. Like mentioned before, a comparative study focusing on the differences on (cosmetic) game item purchase intentions between pay-to-play and free-to-play games would shed some light on this issue, as so far, these two contexts have remained separate in research on this field.

The framework used in this study is subject to some further examination as well. All parts of the theory of consumption values were used, and the results indicate that most of them have no effect on purchasing intention in this context. Especially conditional and epistemic values were tested as completely new additions that have not been tested before with the theory of consumption values in this context. Effort was made to adopt previously used constructs that seemed to fit the context of online games and cosmetic goods. Still, it can be argued that some other constructs for conditional and epistemic values respectively could have

yielded different results. Future research could focus on exploratory analysis of these values, namely a more in-depth exploratory factor analysis, to determine more accurately what the potential factors for conditional and epistemic values would consist of if they were to be used with the theory of consumption values in future research not only in the context of online games and cosmetic goods, but in a more general sense as well. The results of this analysis would benefit data collection as well, as a more accurate questionnaire could be designed.

One of the most interesting findings of this paper was the fact that the visual authority derived from using cosmetic game items predicts enjoyment of using cosmetic game items. This suggests that future research could focus on precisely measuring the possible different factors that determine players' enjoyment of using (cosmetic) online game items: the current model (i.e. visual authority alone) proposed in this paper explained roughly 33% of variation in enjoyment, and it stands to reason that other important factors exist that would help improve this framework. As visual authority was labeled as part of social values in TCV, a reasonable starting would be to examine if social values in general predict emotional values in cosmetic game item purchase. Although the opposite has been found in previous research (Kim, Gupta and Koh, 2011), the results of this paper indicate that there may not be one single "true" result.

Continuing on the same topic, the effect of monetary value on purchasing intention was notable. However, it was not in the scope of this study to examine the perceived value for money players associate with cosmetic goods any deeper. Thus, future research could focus on accurately determining what determines the monetary value players give a cosmetic item in online games. Like with enjoyment of using cosmetic items, a deeper understanding of what factors influence perceived value for money would help in building a more accurate framework with which to examine purchase intentions as a whole. These findings suggest that a new way of examining online game items is warranted if TCV is used: instead of using the framework in a way in which all values affect purchase intention separately, a framework in which hierarchies of values exists could potentially be more accurate. This would of course put TCV itself under scrutiny, as one of the main properties of the original TCV was that the values are individual from each other, i.e. they should not affect each other (Sheth, Newman and Gross, 1991). It is therefore proposed that future research should focus on some other form of framework in examining purchase intention in online games, or

alternatively develop an entirely new framework for TCV that focuses explaining consumer behaviour in online games.

From a more practical viewpoint, as a master's thesis this study was subject to monetary and time constraints. Different parts of this paper were subject to different deadlines, and as such all possible theoretical viewpoints were not fully examined in this paper. Furthermore, especially during data collection no monetary incentives could be provided to the respondents. One could argue that having such an incentive would have hastened the collection process as well as potentially yielded more answers, although the current amount is more than satisfactory. A faster data collection would have allowed for more time on the actual analysis of the results, but the increase in accuracy would have been marginal as the current models in the paper were quite thoroughly tested.

The survey respondents represent a multitude of backgrounds with somewhat large variation in age, educational background and nationality, as the survey was posted to both Finnish and international forums and Facebook groups. This means that the results are a general overview of players' purchase intentions, and do not represent one specific group of people accurately, although the motivations of Finnish players are overemphasized in this sample. Therefore, future studies should focus on one specific target audience, e.g. Finnish players only, to gather more meaningful data on players' purchase intentions. This would also naturally mean a smaller player base, which means more emphasis should be put on data collection to ensure an adequate amount of responses.

Furthermore, as an online survey was used for data collection, all the data used in this study was self-reported by the respondents. This means that most likely the majority of the respondents are active players of World of Warcraft who are also engaged with community activities and eagerly partake in surveys and other forms of community action to help out others. This may have affected the results, as the perceptions and intentions of highly engaged and active players might be overemphasized over less active, unengaged or new players. Although reaching unengaged and less active players is naturally a more difficult task, a study on their purchase intentions would highlight the differences between engaged and unengaged players. Moreover, future research can look into using actual purchase data in addition to self-reported perceptions to form a more complete view on actual purchasing behaviour, and to reduce the possible bias in self-reported data on perceptions about

purchasing online game items. Engaged and unengaged players' actual purchasing behaviour could also be separated between each other in actual purchase data, and comparisons could be made.

8. References

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9. Appendices

Appendix A. The Survey Instrument

Item

Enjoyment value

1. To me, using cosmetic game items is... (Enjoyable – disgusting)
2. To me, using cosmetic game items is... (Exciting – dull)
3. To me, using cosmetic game items is... (Pleasant – unpleasant)
4. To me, using cosmetic game items is... (Interesting – boring)

Visual authority value

5. The use of cosmetic game items in World of Warcraft makes me feel more acceptable in-game.
6. The use of cosmetic game items in World of Warcraft improves the way I am perceived
7. With the use of cosmetic game items in World of Warcraft I can make a better impression on others
8. Using cosmetic game items in World of Warcraft gives me social approval

Monetary value

9. Cosmetic game items in World of Warcraft offer value for money
10. Cosmetic game items in World of Warcraft are reasonably priced
11. The quality of cosmetic game items in World of Warcraft is good relative to the prices
12. Cosmetic game items in World of Warcraft are economical

Character identification

13. I consider the game character in World of Warcraft as my other self
14. When I play World of Warcraft, the goals of the character become my goals
15. I view a game character as my equivalent-being
16. When I play World of Warcraft, I almost feel like the game character

Perceived network size

17. How many of your friends play World of Warcraft?
18. How many of your peers (co-workers, fellow students etc.) play World of Warcraft?
19. How many people in your environment play World of Warcraft?

Time pressure

20. I have limited time available for me to purchase a particular cosmetic game item in World of Warcraft
21. I am not rushed for time when purchasing cosmetic game items in World of Warcraft
22. The amount of time pressure I feel when purchasing a particular cosmetic game item in World of Warcraft could be characterized as:

Optimum stimulation level

23. I like to experience novelty and change in daily routine
24. I am continually seeking new ideas and experiences
25. When things get boring, I like to try something different
26. I like continually changing activities

Purchase intention

27. I intend to purchase cosmetic game items in World of Warcraft in the future
28. My willingness to buy cosmetic game items in World of Warcraft items is high
29. The likelihood that I will purchase cosmetic game items in World of Warcraft items in the short term high

Demographics

30. What is your age?
31. What is your gender?
32. What is your highest level of education (completed or currently studying)?